STRENGTH

By

C. A. Sampson

C. G. Sampson

STRENGTH

A Treatise

ON

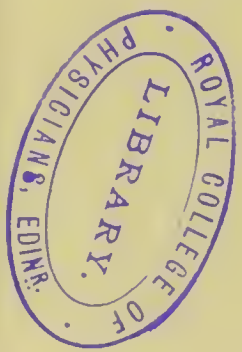
THE DEVELOPMENT AND USE

OF

MUSCLE.

BY

THE CHAMPION,
C. A. SAMPSON,
"The Strongest Man on Earth."



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Mens Sana in Corpore Sano.

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THIS BOOK IS DEDICATED

To The Youth

OF THIS,

MY ADOPTED COUNTRY,

In the earnest hope that it may stimulate to even greater activity the newly awakened and vigorous interest in athletics that so happily characterizes the present time.

CONTENTS.

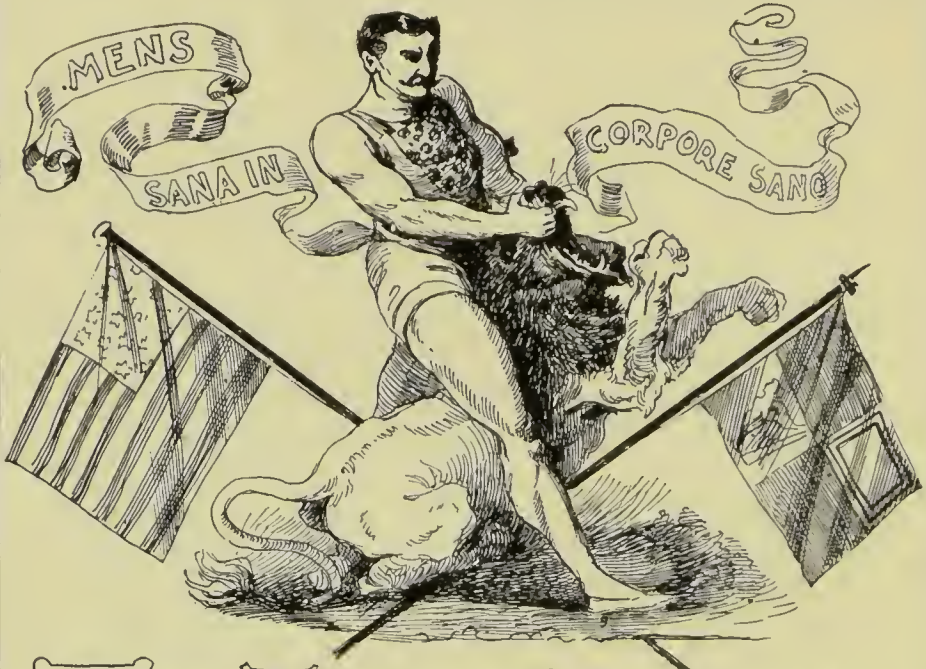
PREFACE.

This treatise is primarily intended for men and women who do not aim to be professional athletes, but wish to possess well-developed, vigorous, and healthy bodies, and learn how to utilize their physical powers. At the same time, the method advocated is the one that has led to whatever success I have attained in my profession, so that I can recommend its adoption by those also who purpose following the arduous occupation of "strong-man."

I shall endeavor to be simple and concise, and not burden the reader with irrelevant matter. To a limited extent physiological subjects must be touched upon to explain clearly the reasonableness of some of the instruction, but long anatomical dissertations, as well as technical terms, will be avoided as far as possible.

My athletic record evidences the soundness of my body. It is my ambition that this book may demonstrate I am not presumptuous in using as my motto the entire maxim,

MENS SANA IN CORPORE SANO.



The Athletic Institute

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We Certify that

G. A. SAMPSON

won Prof: Atkinson's (bone-setter) gold belt by accomplishing the following feats

Record for Heavy Weight Harness lifting 4000 lbs.

19th December 1891.

John Atkinson — Referee.

C. Berley Assistant — Judge.

William H. Burch — Hon: Sec:

STRENGTH.

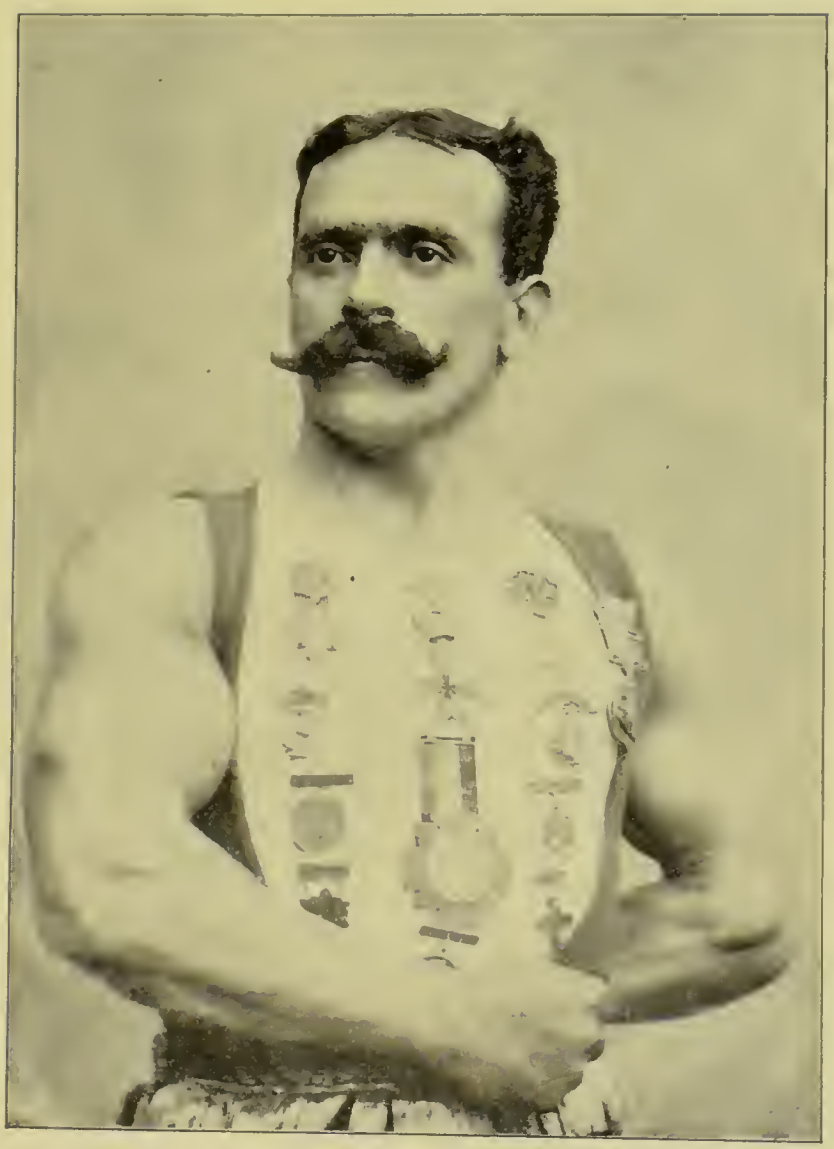
CHAPTER I.

INTRODUCTORY.

Of the books written upon physical development the name is legion. It would be a thankless and invidious task to separate the worthy from the bad and indifferent, and name them; but it may be broadly stated that those works not quite modern are worse than useless, and entirely untrustworthy guides.

It is amusing, in the light of our present knowledge, to read some of the books written on this subject twenty or twenty-five years ago. Preliminary purgings, ascetic abstinence, and the swinging of clubs of enormous weights were a few of the things considered absolutely necessary.

All such methods are now discarded by intelligent teachers; indeed, from what I have read in a book lately published, the pendulum seems to be swinging somewhat too far in the opposite direction, and the instructions appear to me to be too unexacting. For instance, I find that exercises I advise to be performed with light dumb-bells are recommended to be gone through without any weights whatsoever in the hands. This, I think, incurs a useless waste of time, for there is no doubt but that it takes longer to reach a certain degree of muscular development by motions made with the empty hands, than if dumb-bells weighing two to four pounds were used. I am free to admit, however, that it is far preferable to use no dumb-bells than to practice with those that are too heavy; and, as I emphasize farther on, in the chapter entitled "Light Dumb-Bell Exercises," it is better for weak or sickly persons at first to perform the exercises in this manner; and later, as the muscles acquire tone and strength, to begin handling one-pound dumb-bells.



A FEW OF SAMPSON'S MEDALS.

Throughout this book I shall constantly warn my readers against the uselessness and danger of straining the muscles or frame, and of the peril that attends exercise carried to the point of exhaustion.

The remnants of old heresies regarding training still have some life; and the false idea that the muscles can not be brought to the highest state of development without encountering these dangers, seems to have as many lives as the proverbial cat, and be as hard to kill.

As I explain in the proper place, those who intend to publicly perform feats of strength must, to a certain extent, run the risk of injury in this manner; their practice with the heavy weights, however, being not so much for the purpose of developing muscle as to acquire the knack of easily and gracefully handling ponderous apparatus.

Whilst giving full instruction to this class of athlete, my chief aim is to provide every one, old and young, male and female, with an easily-learned and simple set of rules and exercises, whereby the muscles may be brought

into that perfect state of development that assures the possessor all the health, strength, and beauty nature intended him or her to have. Heavy dumb-bell or any other straining exercises are quite unnecessary to reach this desirable end, and, unless the pupil is ambitious to excel in athletic competitions, are quite uncalled for.

The general relationship existing between health and exercise is universally admitted; but in this, as in other matters, individuals are apt to make exceptions of themselves, and fancy they are differently constituted to others, and think that although the rule commonly applies, it does not do so in their particular case.

It is, of course, a fact that many people keep in a fair state of health with but little exercise, but it is beyond all question that they would be all the more vigorous, robust, and clear-headed if they were to muscularly exert themselves to a reasonable degree every day. In the first place, they would store up a reserve of vital force against that evil day

when sickness comes; and secondly, their bodies would be freed of the impurities that are cast off by active exercise, and afford a less likely resting-place for the germs of disease, which thrive and propagate on corruption.

But the benefits of exercise do not all lie in future freedom from or mitigation of sickness. The gain is immediate also, for when muscles are used, the tissue of which they are composed breaks down faster than if they were not exerted, and, as is explained later, the excretory organs, especially the pores, are stimulated to increased activity, and carry off more rapidly and thoroughly effete matter, which, when allowed to linger in the body, is invariably harmful.

The muscle, after its broken down tissue is excreted, immediately begins to absorb material from the blood to build up and replace what has been discarded; the digestive organs respond at once to this call for nutritive blood, by providing more digested matter; and the appetite, in its turn, is corres-

pondingly increased—in fact, a whole chain of results follow muscular exercise, every link of which is entirely and invariably beneficial to both body and mind.

The bright eye, clear complexion, unclouded brain, and ruddy glow of health, that indicate a system free of effete material, and bountifully supplied with healthy blood busy building up muscle, is the immediate reward of those who intelligently exercise. The muddy or pimply skin, the dull eye, inert brain, and sallow countenance are the outward signs provided by nature to indicate that functional torpidity or disorder is progressing within, and that exercise is called for to correct the derangement.

A property of muscular exercise, that is not as often recognized as it should be, is its power to rest the tired brain. As will be more fully explained farther on, whenever an organ is brought into action a largely increased supply of blood is directed there. Inversely, when the blood supply of any organ is increased, its activity is enhanced, and when the supply is

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lessened its activity is reduced. The brain is not an exceptional organ in this respect, an extra supply of blood being called to the seat of thought whenever the mind is actively engaged. To thoroughly rest the brain, therefore, the blood should be drawn from it, which can only be done to a serviceable extent by exercising some other organ and calling the blood to that part.

We have all felt the invigorating influence of a smart walk after a period of severe mental work, and it will be found that a few minutes with the dumb-bells has even a more restful influence, for then a larger number of muscles are brought into action, and a correspondingly greater volume of blood is drawn from the brain.

It may perhaps appear strange that I do not advise the use of even light Indian clubs. I will give my reason for not doing so, as it is somewhat explanatory of the important and often ignored fact that physical strength depends upon the power to contract muscle. A simple exemplification of this is obtained by holding a weight in the right hand, the arm

hanging by the side. With the other hand grasp the biceps of the weighted arm and, as the elbow is flexed and the weight is lifted upward towards the shoulder, the muscle will be felt to increase its circumference and shorten itself, thus by its contractile power pulling up the forearm, to which the lower end of the biceps is attached. As all muscular action is of this character, it is apparent that contractile power constitutes strength, and the intelligent instructor keeps this fact ever in view.

It does not take any great expert knowledge to comprehend that the forcible stretching of an elastic tissue can not tend to develop its contractile power, in fact that the very contrary must result; hence my serious objection to the use of Indian clubs, the swinging of which severely stretches the muscles and slightly, if at all, calls into play their power of contraction.

It is often forgotten, when elasticity of muscle is spoken of, that what is, or should be, meant is its power of contraction, not its possibility of extension. I must not, however, be

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understood to mean that muscle should be so developed that its capacity for stretching should be diminished — as occurs when one becomes what is termed "muscle-bound," for the exercises I suggest are so devised that both functions will be promoted.

A cry has gone up lately that hard muscle is a sign of an abnormal and unhealthy condition, and a book that has attained a large circulation within the past few months lays particular stress on this point.

A very little consideration will show the absurdity of the theory.

Under the microscope a muscle is seen to consist of a number of fine cords or fibers bunched together, much as electric wires are sometimes massed into one rope. Each of these cords has its separate power of contraction, and it is a simple arithmetical proposition that the greater the number of these cords a muscle contains the greater must be its contractile power as a whole; and as the hardness of a muscle simply denotes its density, the absurdity of the contention that a soft

muscle (one composed of few fibers) can be as strong as a hard muscle (one composed of many fibers) is apparent.

If further refutation of this theory were necessary, one has merely to turn to the lower animals for the purpose. Is the horse less healthy or more subject to disease when in training, with every muscle like steel, than when he is in a softer condition? His glossy skin, power of endurance, keen appetite, and frolicsomeness negatives the proposition. Animals in their natural state, that keep their muscles hard by constant exercise, are other cases in point; for surely they are then no more subject to disease than when their muscles are softened by loss of exercise during confinement.

The book in question that makes this absurd assertion, also uses the fact that wild animals keep in trained muscular condition without the use of apparatus as an argument against the use of dumb-bells, etc.

It is probably true that if man walked on all-fours there would be no occasion for any artifi-

cial aid to develop his arms, shoulders, chest, and back; but as he is constituted to walk upright, and because people under the conditions of modern life are, in many occupations, called upon to but little use these muscles, artificial means are rightfully resorted to to counteract the ill results of artificial existence. In other words, the use of dumbbells, or some such implements, are necessary to the even development of the muscular system of those who exert themselves unevenly, as is the case with all leading sedentary or semi-sedentary lives.

It will be found that the exercises I direct are not arduous or onerous, but that, on the contrary, when they have been practiced for a few weeks their cessation will be considered a deprivation. A quarter of an hour's dumbbell work before breakfast and its repetition before going to bed will, in time, be felt to be as necessary as a meal, and the missing of it be as keenly felt. The appetite for breakfast, caused by the early quarter of an hour's exercise, and the sound sleep that follows the latter,

gives immediate assurance of the healthfulness of the practice.

There is no royal road to the acquisition of anything really worth having, and my method does not pretend to be such; but I feel convinced that the system I advise is as short a cut, and as pleasant and smooth a path, as can be traveled along to attain the objective point, which I take to be a vigorous physical development of such character that its permanence is assured. I am quite ready to admit that by more violent means than I advise, muscle can be more quickly developed, but I am confident that muscle so formed is not of such lasting quality, and that a very short cessation from exercise would result in a complete undoing of the severe work of months.

"Slow but sure" should be the motto of both pupil and teacher in athletics—the fable of the tortoise and the hare being used to illustrate it.

I mention hereafter the necessity for concentration of mind and will-power on whatever exercise is being performed. The sub-

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ject opens up a wide field for investigation, of special interest and importance to the athlete, and without going into any deep consideration of the subject, it is well not to drop it out of mind altogether.

The human system is an intensely sensitive organization, every part of which acts and reacts upon every other part, either directly or indirectly, with unerring certainty. One arm is damaged — the other aches in sympathy; the brain is injured—the hand or foot is immediately paralyzed; a member is hurt—the brain instantaneously takes note of the fact, and pain is felt at the point of injury. The relationship between mind and body is close and inseparable; so much so that without having any belief in the teachings of the apostles of modern "faith cure," it does not seem to be an unreasonable conviction that concentration of mind upon the performance of an exercise aids the development of the muscles brought into play. Let this be as it may, it is true, without doubt, that from one cause or another it is impossible to exert one's strength to the utmost, or to attain

the best results from training, unless the mind be intensely concentrated on the work in progress.

Following is a short sketch of my life which I include, not because I consider it of any special interest, but that it throws more or less light on my methods of training, and what has resulted therefrom.

CHAPTER II.

BIOGRAPHICAL.

MY NAME is Sampson, not Samson, as it is often written by those who suppose I assumed a name to suit my profession.

I was born in Metz, Lorraine, on the 16th of April, 1859, and lived there during the first two years of my life, and, as my mother afterward told me, was a fat and lusty boy. My father was a surgeon in the French army.

When I was two years old my mother's ill health made a change of climate necessary for her, so, taking me as a companion, she went to Italy, and later sailed from there to Australia, where we staid until my seventh year. After five years' absence, on the 7th of May, 1866, we once more turned homeward. The steamer "Australia," on which we took passage, broke down in mid-ocean, and it was not until after a tedious and perilous voyage of

eleven weeks that we arrived in London. I was so young at the time that I do not remember all the dangers we encountered, but my mother, who had much improved in health, became more than ever an invalid as a result of the nervous strain endured while helplessly being tossed about at the mercy of the waves. She never recovered from the shock, and shortly after reaching home, passed away. Thus at an early age I was deprived of a mother's watchful care.

On reaching my eighth year my father, who, because of his military duties, was seldom at home, took me to a school at Friedrichsdorf, in Germany. This institution was one of the best in Europe, and youths from all parts of the world were sent there to be educated.

Traveling around the world with my mother had, however, made a more or less spoiled child of me, and learning lessons appeared to be dreadful drudgery. I was, at all events, a healthy, high-spirited boy, if not a studious one, and whenever there was any mischief on hand, I was sure to be the ring-leader. Before very

BREAKING CHAIN BY ACTION OF THE BICEPS.

long my father was notified of my misdoings and, as a reformatory measure, removed me to a small private school at Heidelberg. Here, also, I made but little progress with my studies and eventually was taken home, where I staid, until the Franco-Prussian War broke out in 1870.

My father accompanied the army in his official capacity, and no sooner had he gone than I took advantage of his absence and ran away with two other boys of equally adventurous disposition and joined the French Ambulance Corps at the seat of war. Early in the campaign one of my little friends was shot through the head by a stray bullet, and killed, and soon afterwards my other companion was taken ill and sent to a hospital in the rear; so that within a few weeks from leaving home I was left alone amongst strangers, to face the hardships and turmoil of warfare.

At the battle of Gravelotte, whilst helping officers to supply the wounded with water, I was struck in my left side by a bullet, but not very severely injured. My father, who had been notified of my absence from home, but did not

know of my whereabouts during all these adventures, heard of me that day, whilst he was on duty near the battlefield. He came to my side at once, and finding it impossible to send me home to Metz, which was then invested by the Germans, had me taken to Nancy for more careful nursing than I could receive at the front. From that time my health began to fail, probably as the result of the wound and of the hardships endured during the time I was with the army; and to make matters worse, not long after, shortly before my fourteenth birthday, whilst sitting in the house, I was struck by lightning and completely paralyzed. At the expiration of seventeen days I somewhat regained the power of motion, but was left partially paralyzed and practically helpless.

As my father was well-to-do, every effort was made and no expense spared to prolong my life and abate my sufferings, but medical skill proved of no avail. Numerous physicians were consulted, but always with the same result; nothing bettered my condition.

RUBBER RING IN POSITION.

After being confined to bed for three months, nature began to assert itself and I became able to sit up for a few hours each day. As I began to mend, two strong ropes, with steel rings attached, were suspended from the ceiling above my bed, extending down within reach of my hands, by the aid of which I could raise myself to a sitting posture.

One day, one of these ropes happening to break, I playfully unfastened the ring and slipped it upon my wrist, and from there forced it to the upper part of my arm around the biceps, where I worked it up and down over the muscles, little thinking that this would lead to any amelioration of my condition. I made several movements with the arm, straining the biceps against the ring, and after a time felt a sensation of ease, but, in turn, my arm, as well as my whole body, was very fatigued. A deep and peaceful sleep followed, from which I awoke feeling fresher and brighter than I had at any time since the lightning stroke. I told none of my physicians of my amusement, or the

result, but kept repeating the exercise, and as time went on my sufferings gradually abated. Daily the lifeless-arm muscles began to harden, my whole body gaining strength, and five months from the time of being stricken I felt myself not only well, but better and stronger than ever before. I did not cease my course of practice with the steel rings, and upon every opportunity slipped one upon my arm and made muscular movements. To this exercise I almost entirely attribute my phenomenal strength of later days.

One day I discovered that by a powerful movement of the arm I had sprung the ring out of shape. I procured a stronger one, which also was soon forced into elliptical form by the action of my biceps. I daily felt my muscles developing, and before long broke ropes and chains, and performed other unusual feats of strength.

When I was a little over fifteen years of age, giving way once more to my restless disposition, I ran away and joined a circus.

This, of course, was without my father's knowledge and against his wishes, but he did not then interfere, thinking that I would soon tire of the occupation and return home. I led this life for over a year, traveling everywhere with the circus, and imagining myself to be the happiest boy on earth. Everything in the way of feats of strength I tried, and everything I bent my mind to I eventually accomplished. Thus I early learned the important lesson that *force of will* is one of the principal requisites for the accomplishment of feats of strength.

At length my father, coming to the conclusion that I would not return home of my own accord, resolved to force me to do so by legal means; so one evening, as I was performing at the Hippodrome in Paris, a warrant was sworn out for my arrest, to be served on me after the show. The manager, however, learnt of it and planned my escape. It being absolutely impossible for me to leave the Hippodrome in any ordinary manner without being seen and arrested, a stratagem was

planned and executed. We were always prepared for accidents to employés, which were of frequent occurrence, so taking advantage of this fact I lay down on a stretcher, and, after being well covered up with blankets, four men carried me out of the building, pretending I was a wounded man. The unsuspecting officers, who were waiting to arrest me, inquired what had occurred, and one of my bearers informed them that a stable-man had been badly injured by a kick from a horse, and was being carried to a hospital. Three blocks from the hospital they took me down a dark alley, when I jumped up and, running to a railway station, boarded a train for Havre, from where I sailed to the New World.

On my arrival in America I performed feats of strength in museums and other places of amusement, being paid at the rate of from $200 to $300 per week. During 1878 I returned to the Old World, and exhibited before most of the universities and crowned heads of Europe.

Even at that early age I often found my strength of use for other purposes than mere

MASSAGING THE BICEPS AND TRICEPS WITH RUBBER RING.

exhibition, as the following occurrence will illustrate: One night in October, 1878, when passing through Strasburg, Alsace, whilst walking with some friends along Kanal Strasse, I heard a woman's cry for help. I ran in the direction from which the voice came, and had not gone far when I saw a German soldier of a Uhlan regiment assaulting a girl. I took him by the collar and gave him a severe shaking, whereupon he drew his sword and slashed me savagely across the head. The force of the blow felled me to the ground, but only for an instant, as I was quickly on my feet again and a fierce fight for life ensued. He was armed with his long sword, and I, bleeding and half-dazed, was without any weapon. It was going pretty hard with me when providentially I espied a loose paving stone, which I made a dash for and captured. With this in my hand I rushed at the big Uhlan, and, dodging a fierce sword-cut, hit him over the shoulder with the stone with such force that it broke his collar bone and brought him to the ground; and then, from loss of blood, I

fell senseless beside him, and knew nothing more until next day, when I found myself in the St. Charles Hospital, where I lay for five weeks, hovering between life and death. On my recovery the soldier was tried, reeeived six weeks' imprisonment, and was degraded from his rank of sergeant. As a memento of this fierce conflict I shall bear to the grave the mark of his saber cut.

In 1880 I again came to America, and performed feats of strength throughout the country.

An ineident happened at Detroit a few years later, which is illustrative of the interest taken in athletics at that time. The occurrenee was reported as follows by the Detroit *Free Press* of February 15, 1887:

"Any one driving on Woodward, or near the City Hall, yesterday, certainly found it difficult, as the vicinity of the great building was packed with spectators, watching and stretching their necks to see if Sampson, the strong man, was in sight. It was stated that he intended to lift one

of the cannons which are placed on either side of the City Hall. This, the people said, was impossible, but, should the statement be true, they would all like to see it done; so consequently the place was jammed. At 1.30 Sampson was to perform that marvelous feat. At 1.20 the crowd cheered: 'Here he comes!' There were three open carriages in view; in the first one was Sampson and the proprietor of the museum, in the two following were the gentlemen with whom the strong man made the bet. As Mr. Sampson and his escort left their carriages to go to the cannon they found it a great difficulty — some would make room for them to pass, others in the rear would crowd to get a better view of the party. Finally they got to the appointed place. Then there was a hush; not a word was heard from the crowd, for the strong man tried again and again, but without success. Then the lookers-on said: 'Oh, he can't lift it!' Others again said: 'I knew that before I came.' Then Sampson, white with rage, took off his coat, stooped, put his back underneath the tremendous cannon, lifted it out of its socket, and dropped it to the ground. Then came cheers from forty-eight to fifty thousand

people, 'Hurrah for Sampson!' The crowd was so overjoyed that they almost carried Sampson to the carriage. What a job it was to have the cannon put back in the socket is beyond imagination. The officials, at least, said if they had had the idea that Sampson possessed the strength to lift anything so heavy as that, he would never have got permission."

In 1889, with the intention of visiting Paris for a period of rest, and to see the great exhibition, I left the United States on the steamer City of Paris, bound for Liverpool. I was then thirty years of age, but had not yet learned the full extent of my powers.

On the voyage I made many friends, and gave two exhibitions, one for the benefit of the Soldiers' Home, the other for the relatives of two firemen who had died on the trip. One of the audience at the latter performance (a member of the great brewing firm of Bass & Co. of England, who resided in Brooklyn, and whose name is, as well as I can recollect, Radcliff) brought me a piece of chain, which he had

found lying about, and asked me if I could break it. I answered that it was a mere nothing to do so—a response I would hardly have made, had I not just before been one of a party at dinner who drank more champagne than was conducive to caution or modesty. As the chain could bear a strain of two tons, the gentleman thought himself perfectly safe when he offered to bet me £10 ($50.00) that I could not break it. I, however, accepted the wager and essayed to perform the task, without, however, accomplishing it at the first attempt. The failure made me only the more determined to succeed, and gathering my force for a final effort, and intensely concentrating my will-power, I tested my strength as I had never before. Slowly the chain stretched, and then broke with a loud snap — the success being doubly satisfactory, in that I both won my bet and for the first time realized something of the extent of my strength, which I then began to think was almost limitless.

On arriving in London, a week or so after landing, I found the papers full of the exploit

and giving long accounts of my other feats of strength. This notoriety resulted in the managers of the principal places of amusement offering me engagements, and I eventually agreed to appear at the Royal Aquarium for £10 ($50.00) per week and *half of the gross receipts*, much better terms than had ever before been heard of in London for like performances. I can say, without boasting, that as the result of my appearance I was the "lion of London" for many months. Upon accepting this engagement I gave up the idea of going to Paris; and work, instead of rest, became my object.

Several events occurred during the five months of my engagement at the Aquarium, which are not without interest as casting light on the vicissitudes and trials encountered by the professional strong-man. I shall give an account of some of them, by quoting extracts from London papers:

(*The Star, Tuesday, September 10, 1889.*)

"A person went to the Westminster Aquarium

LIGHT DUMB-BELL EXERCISE NO. 1 — READY.

the other evening with some sovereigns and a steel chain in his pocket and a disinclination to believe in the strength of the strong man, Sampson. Producing the chain when Sampson was about to begin his performance, he offered him a sovereign for every link that he succeeded in breaking. Sampson examined the chain, then holding it up in sight of the audience, he closed the fingers of his left hand over one of the links. A loud snap was heard—the link was broken! Sampson went quietly on with his task, and a succession of snaps followed. He was smashing the steel links like matchwood between his terrible fingers. When seven or eight of them had gone, the astonished stranger cried, 'Hold, enough!' and felt for his purse. He had only four sovereigns in it."

(*The London Sportsman, Wednesday, August 14, 1889.*)

"Sampson, the strong man, found his muscles extremely useful the other night. He was having a walk in company with a friend, when they met two 'sky-larking lobsters from the barracks.' The soldiers thought they would have a joke at the

expense of the two, and pushed Sampson's companion into the gutter. Then the man of might rose up — not in his wrath, for he is an extremely good-tempered man — and took hold of the two military gentlemen. Their craniums rattled together like unpacked eggs, and the two warriors soon felt certain that it is better to 'know your man' before you take him on. Sampson and his friend walked on in peace. We remember, not long ago, a somewhat similar case, when an individual who had gained a name as a pugilist was attacked by highwaymen. The footpads had such a drubbing that they laid up for a fortnight."

Before my arrival in England strong-men were seldom seen in London theaters, and when one did appear his reception was not enthusiastic and his salary proportionately small; but after my first week's appearance strong-men turned up from everywhere, and the wages paid them were phenomenal. What was thought of my performances is shown by the following extract from *The Era*, a well-known London paper:

A MODERN SAMSON.

"'O! it is excellent to have a giant's strength; but it is tyrannous to use it like a giant.' Thus Shakespeare. But with all reverence, be it said, Shakespeare didn't know everything, and was occasionally inclined to be too dogmatic. Whether or not it is tyrannous to use a giant's strength like a giant depends entirely upon circumstances. A giant's strength would be very useful to a dock laborer, for instance, and would enable him to command such wages as would preclude the possibility of his going out on strike, and the necessity to demonstrate in Hyde Park on Sundays. A giant's strength would be a very good thing to possess about the time when bailiffs wish to distrain for income tax unpaid, or mother-in-law, invited for a week, had stayed a month and refused to budge, and there are innumerable other circumstances under which it would be anything but tyrannous to use it. Samson of old possessed a giant's strength, and would have been spared calamities dire had he used it to strangle Delilah what time she was making preparations to shear his beautiful locks. A modern Samson has arisen, and for the past few weeks his

extraordinary doings have excited the wonder of all visitors to the Westminster Aquarium. This latest addition of the strongest man in the world is indeed a marvel, and as evidence that he is not guilty of humbug or trickery he boldly offers to give large sums of money to those who can accomplish his feats, and to wager the most liberal odds that he will succeed in doing things that are seemingly impossible. The simplest of his exhibitions is the bending and breaking of a shilling with his fingers. With a single blow of his fist — protected only by a handkerchief — he breaks a couple of steel chains that have been tested to bear a strain of about 3,000 pounds. With a straight pull he breaks to pieces a chain at which three men have tugged and tugged in vain. But most remarkable of all is the snapping of strong chains by the mere expansion of the muscles. Sampson puts a double chain bracelet-like around his biceps; he takes a long breath, he raises his forearm; the muscles begin to swell, and, in less time than it takes to tell it, snap go the chains. A similar feat is performed by the development of the muscles of the chest. His final feat is the extraordinary one of swaying to and fro a dozen pow-

LIGHT DUMB-BELL EXERCISE NO. 1—PICKING UP WITH UNBENT KNEES.

erful young men, who on either side of him grasp an iron bar and resist his efforts."

I now felt that no man living could equal me in feats of strength, and backed my opinion by publishing my challenge that I would bet anybody £500 ($2,500) to £100 ($500) that they could not duplicate my performance.

This challenge was not accepted until November of that year, when Sandow notified his willingness to compete. The test was one of the most remarkable incidents of my life. My competitor was so noted a man, and such a favorite with the public, that on the day of the contest 10,000 people had actually to be turned away from the door, after the house was so packed that there was not even standing room for another person. As much as from ten to twenty guineas was paid for box seats that night. The result of the contest was highly unsatisfactory and indeed shameful. Sandow, amongst other things, did not even use the materials provided for the contest, but substituted others

prepared for his own use. Matters were conducted in such an unfair manner that eventually I left the stage, and the audience, not comprehending the true state of the case, were loud in their denunciation of me. There was, however, soon afterward, an entire change of opinion on the part of the public, as they came to realize the scandalous character of the proceedings.

The following newspaper extracts, and letters from myself and from persons eminent in athletics, throw much light on the subject, and set forth the views now generally held across the water:

(*St. Stephen's Review, November 9, 1889.*)

"It is a great pity that the competition between Sampson and Sandow at the Aquarium was not properly arranged in all its details before it took place. As it was, Sampson was really very badly treated, and his complaint that he did not get fair play was thoroughly well founded. Lords Queensberry and De Clifford did not hear the original challenge, and therefore did not understand the

LIGHT DUMB-BELL EXERCISE NO. 1 — FIRST POSITION

nature of the contest. I did hear it, and Sampson most distinctly stated that his intention was to perform any feat whatever that he is capable of, and that Sandow would have to do each one after him to win his money. He even explained that, owing to the limit of time, he always omits more than half of his performance at the Aquarium, and that he certainly should not bind himself to do only such feats as he was in the habit of doing on the Aquarium stage if Sandow came up to compete with him. In the face of this, however, the referees on Saturday prevented Sampson from breaking a strap round his chest, just because this was not on his usual programme. It is pretty certain Sandow would have failed in this, for he only just managed the easier effort of breaking the wire strand. Besides this, Sandow never even attempted to break a chain with his hands, although Sampson did so successfully. It is no discredit to Sandow's reputation that he should not be able to do all that Sampson can. It is quite certain that Sandow on his own side can do many things that Sampson can not, and if he were the challenger, under similar circumstances he would win. The point is that Sampson challenged Sandow to come

on the stage and do all that he (Sampson) can do; and then, behold! Sampson is not allowed by the referees to show his full strength. That he has been hardly used is certain."

(*Sportsman, November 9, 1889.*)

"SIR: In face of the prominence given to misstatements concerning my match with Sandow on Saturday evening last, I will thank you to publish the facts, which I, as the challenger in the match referred to, am entitled to make public. I, the challenger, accepted £100 as against my £500 that Sandow could not go through my performance or do my feats of strength. In regard to the referees, or Captain Molesworth's office in conducting the matter, I may say that I was not consulted, as I expected fair play. Having laid heavy odds, I appeal to an unprejudiced public to read my short account of the competition and form their own conclusions as to the justice of the decision arrived at.

"Sandow had to do what I did. I led off with ¼-inch gas-pipe, which I bent on my chest, straightened out again on my arm, bent it on my

arm again, and straightened it again, finishing off by breaking it on my leg. Sandow, after a desperate struggle, succeeded in a space of time three times as long as that occupied by me in bending and straightening the bar once only. I had had with me, as the challenger, bars from ¾ to 1½ inches in thickness. These the referees refused to permit me to use. Why? After struggling with the thin one, as all spectators will admit, could he have succeeded with very much stronger gas-piping? I then produced a leathern strap, with a resisting capacity of 3,000 pounds; this I was not allowed to break round my chest. Why? Forsooth, because I had not used a strap before in my performances. I then produced twenty-two strands of picture wire, which I burst with ease by the first expansion of the chest. Sandow, after five futile efforts and incessant twisting, succeeded in unloosening the twisted coil. I then produced two champagne bottles, one full and one empty, in order to perform a plain feat of extraordinary finger strength, and nothing more. I, the challenger, laying heavy odds, was again refused. I then took a chain bearing the closest inspection, and by a straight pull broke it. After having done this I

passed it to Sandow, and he refused to do it. This is only one of the points on which he should have been declared vanquished. I then took a double chain to break on my muscle, and did so. Sandow's lower arm is an inch thicker and his upper arm, where the chain is broken, three inches smaller than mine. Sandow's excuse was that his forearm would not admit of the chain being slipped on. I therefore extended the chain by a link, but Sandow produced a chain from his pocket, which he rapidly slipped on and broke without offering it for examination and test. It is useless to write more. In order to substantiate my claim, and to prove that my reputation and my money have suffered from the want of fair play, pray make it known that I do not wish Sandow even to go through the whole of my performance; but to break only one chain which I will break, to come from his arm to mine. I stake £5,000 of mine against £500 only of Sandow's money that he can not do this plain feat. I am,

"C. A. Sampson,

"*Still the Strongest on Earth.*"

"49 Broad St., Bloomsbury, W. C.,

"November 2, 1889.

"Dear Sir: Just a line to say that I, at least, to-night felt ashamed of my own countrymen at the way they shouted and howled whenever you attempted to speak or perform. Instead of giving you a fair trial, the majority present did everything they could to prevent your performance.

"I am sure from what I overheard, many had come organized to kick up a disturbance, and others having bet on Sandow did all they could by their continued interruption to get you into such a state of excitement so as to prevent you from going through your performance properly.

"I regret that you did not, under the circumstances, refuse to proceed and at once retire. Wishing you a long and prosperous career before the public.

"Yours faithfully,

"G. A. Marshall.

"'Sampson,'

"Royal Aquarium, Westminster."

"WAITE'S SCHOOL OF ARMS,

"LONDON, November 4, 1889.

"MR. C. A. SAMPSON:

"DEAR SIR: As eye witnesses of the *farcical* performance which took place on Saturday last, we feel duty bound, as lovers of fair play, to tender you our sympathies, as it was evident to us that the public feeling was against you before ever you commenced.

"If we understood your challenge aright (we make no reference to the stake) it was that your opponent should compete with you in the feats that you were in the habit of performing at the Royal Aquarium, and *Captain Molesworth distinctly stated this in his opening speech to the spectators.* Therefore we can not at all understand why the judges should have prohibited you from doing this, neither can we understand why the dumb-bell was introduced. If we might make a suggestion in the event of another contest, it is that all materials be properly prepared to the satisfaction and in the presence of the competitors, with a competent judge on either side, who thoroughly understands the materials, so that there can be no disputing on the stage. As it was, in

LIGHT DUMB-BELL EXERCISE NO. 1.

our humble and honest opinion, you did not have fair play, unless we are in error as to the terms of agreement.

"We are, dear sir, yours faithfully,

"MACE & WAITE."

"MANOR OF ST. JOHN'S,

"WATERFORD, IRELAND, November 6, 1889.

"SIR: Will you allow me, as one who takes an interest in sport, and has a true admiration for those who excel in feats of bodily strength and endurance, to express the disappointment I felt at reading of the disgraceful manner in which you were treated at the Aquarium last Saturday evening. Though I have never had the pleasure of witnessing your wonderful feats of strength, yet I sympathize deeply with you on account of the lamentable want of fair play you received from a really unsportsmanlike British public. Trusting you will excuse my taking the liberty of expressing my feelings—my indignant feelings—at the way you were treated,

"I remain, sir, your faithful admirer,

"A. R. BONAPARTE WYSE.

"C. A. SAMPSON, Esq.,

"*Still the Strongest Man on Earth.*"

"JUNIOR CARLTON CLUB,

"PALL MALL, S. W.

"SIR: I was present at the performance at the Aquarium on Saturday, and I consider you to have been most unfairly treated. I also consider you to be a stronger man than Sandow, and that you are entitled to call yourself the strongest man in the world without doubt. I should like to call and tell you this personally. Kindly send me a line to the above address to say if I can do so, and at what hour. Yours truly,

"C. POLLEX."

"LONDON, November 6, 1889.

"MR. C. SAMPSON:

"DEAR SIR: A few lines on the unfairness of the competition on Saturday evening, and also the foul conspiracy against you, and being no friend of such conduct as was dealt out, I would have, if placed in your position, a searching inquiry of such a nature that any further attempts of that kind should be exposed. You have your reputation at stake, so to prove that, test by the best mechanics, and in presence of responsible persons, the material you used on Saturday evening; also

that Sandow used, and prove that Sandow's material would not break, as was shown, and that yours will. A lover of fair play sends you the one used by Sandow to test. Use your own judgment the best course to adopt. You have my sympathy, therefore have sent you the material to work on.

"Yours sincerely,

"A Well Wisher."

"3 Middleton Road,

"Wandsworth Common, London, S. W.,

"November 7, 1889.

"C. A. Sampson, Esq.:

"Dear Sir: I am greatly touched with the expressions of thanks contained in your letter of yesterday, and it proves more than anything else the sincerity of your assertions. What I said in my letter to the *Sportsman* is only a very *mild* expression of my feelings respecting the unjust and disgraceful treatment you received at the hands of both the judges and the audience. Although only an amateur myself, I have had also to contend against the jealousy of others, but fortunately I could afford to laugh at it, and have maintained my superiority in my own line for

more than fourteen years. I admire the brave and plucky fight you are making single-handed, and I sincerely wish you every success in your just endeavors to maintain your position. If I can be of any service to you I shall be glad to do so.

"I remain, dear sir, yours faithfully,

"E. Ferdinand Lemaire."

Comment upon these letters and extracts would be superfluous.

Before my contest with Sandow my performance had chiefly consisted of breaking coins with my fingers, and snapping iron bars and chains by sheer strength of arm, and bursting chains, wire ropes, and straps by the expansive power of my lungs and biceps. Sandow's performance was more in the line of lifting heavy weights, which fact decided me to return to America and practice this particular feat. Having made up my mind to do this, I sailed on the Teutonic, and on landing at New York went direct to my home in Detroit, which place I reached in March, 1891. I immediately ordered the necessary weights, etc., to be con-

LONG BAR DUMB-BELL EXERCISE NO. 1.

structed, and after short practice felt sure that I could equal or excel any man on earth in this line, so in the following July I returned to London to publicly test my powers. I made harness lifting my specialty, and on the 23d of November, 1891, broke all records of the kind by lifting 508 pounds more than ever had been raised before in this manner. Herewith are two newspaper accounts of the event:

(*Sporting Life, London, November 24, 1891.*)

"Sampson's Prodigious Lift — Over 3,800 Pounds Lifted by the Neck.— An overwhelming gathering of spectators tried to get into the theater at the Royal Aquarium yesterday afternoon, when C. A. Sampson gave a special performance, during which he essayed the greatest lift that has ever been attempted by a human being. The sight of the vast attendance must have been very gratifying to Sampson, who has been in enforced retirement for some time past, owing to an accident to his right arm, and the applause that was showered upon him showed

that his efforts were appreciated. Among those present were Eugene Sandow, Professor Atkinson, Launcelot Elliott, Algernon Spencer, and Reginald Spencer, besides a host of theatrical celebrities, both male and female.

"Shortly after 5.30 Sampson appeared, dressed in a green and maroon costume, trimmed with gold. He spoke of his first appearance in England, when strong men were an unknown commodity, and he also called attention to the fact that he was the first to discover the merits of Cyclops, who was really the first to start the international matches. Sampson then issued a challenge to all the strong men, particularizing Louis Cyr, whom he invited to test his latest lift — two horses, two men, and a platform. This new feat is done in the following manner: The platform, which weighs 600 pounds, is suspended on four iron chains, and at each corner there is a running wheel, which slides up the four brass rods that support the platform upon which Sampson stands. These chains are attached to a leather collar, which Sampson places on his neck, and then grasping the two hand-rails, he stands ready for his lift. When everything was

in readiness Sampson ordered out the two horses, and Mr. Ludford, their owner, led them on the stage. One was a big bay, standing 16 hands 3 inches, and weighing 1,450 pounds; the other was a gray, standing 16 hands 3 inches, and weighing 1,375 pounds, so that there was 2,825 pounds of horse-flesh on the platform. In addition to this, two men, named J. Bevin (weighing 12 stone 9 pounds) and H. Baker (weighing 11 stone 13 pounds), stood on the platform to hold the horses. This made the total weight 3,809 pounds. In order to insure perfect fairness, four judges were appointed to watch the platform, and see whether it was lifted clear from the stage. These were Professor John Atkinson, Beverley Jevons, Mr. Vansittart, and Mr. Snow. Ed. Plummer, representing the *Sporting Life*, was selected to go on the top platform with Sampson, to see that he used no unfair leverage.

"After a little adjustment of the tackle Sampson braced himself for a supreme effort, and lifted the mass about an inch from the floor. The spectators shouted themselves hoarse, but Sampson was not satisfied, and tried again, but

this time he scored a failure. Then he asked for a few moments' rest, and tried again for the third time, which resulted in a pronounced success. The platform was gradually raised up until fully two inches of daylight could be seen under it. The effort was a mighty one, and the recoil proved too much for Sampson, for when he tried to put his load down he fell prone on his face, fainting, and many people thought that he had burst a blood vessel. Realizing the athlete's danger, the *Sporting Life* representative quickly removed the tackle from Sampson's neck and lifted him to his feet, where he stood dazed for some time; but after a restorative had been administered Sampson was able to appear and bow his thanks. This lift now forms the best of its kind in the world, and supersedes the famous harness lift of William B. Curtis, the American amateur, which was 3,300 pounds."

(*Daily Graphic, November 25, 1891.*)

"The Strongest Man on Earth.—Sampson, the strong man, who is exhibiting his powers at

the Westminster Aquarium, has lately accomplished the feat of lifting a load of over a ton and a half. Two horses, two men, and a platform were the component parts of a weight of 3,800 pounds, which Sampson raised after he had gone through a familiar exhibition of his bar-lifting and chain-breaking capabilities. The special apparatus required for the feat was formed of four uprights, high enough to admit the horses and men beneath a platform, on which Sampson stood. From the ends of a leather collar round his neck depended iron chains, which were attached in turn to a movable platform below, made to slide vertically on wheels. One horse, a bay, weighed 1,450 pounds, and stood 16 hands 3 inches high; the other, a gray, weighed 1,375 pounds, and stood 16 hands 2 inches; the men weighed 12 stone 9 pounds and 11 stone 13 pounds respectively, and the platform 600 pounds. A committee watched the performance, which was also keenly scrutinized by the audience. Among these was the redoubtable Sandow. Mounting the upper platform by means of a ladder, and placing the collar round his neck, Sampson braced himself for the feat, amid breathless silence. To accomplish it appeared beyond even his powers. His

form, in proportion to the enormous weight in the huge structure beneath him, seemed absurdly inadequate. 'Keep the horses quiet!' he sang out. 'Ready!' He bent to the task, and strained till his veins seemed about to burst. Then the platform was seen to move slightly, but only slightly. Sampson tried again—and failed. Begging for a short rest, he made a third attempt after a few seconds' interval, and, following a supreme effort, the gigantic load was seen to move to a height of at least three inches. The platform fell with a resounding crash that was drowned in the deafening applause. It was a hardly-won triumph, though. Sampson fell forward with a gasp and groan, and lay prostrate for several seconds afterward."

Four weeks later I again set a new mark, which I firmly believe will never be beaten, by lifting 4,008 pounds. For this performance I was awarded the champion gold belt of the world. The diploma that accompanied it is reproduced on page 10.

During this and my other trips to England

LIGHT DUMB-BELL EXERCISE NO. 2.

I performed throughout that country in all the principal towns, attracting large audiences everywhere.

In May, 1893, I again returned to America and made, what I considered, the most gratifying success of my life; for, as the result of taking part in the athletic competition at the World's Fair, in Chicago on September 4th, I was awarded, against all comers, the gold and diamond medal. This trophy I value above any other I have won, both for its unusual artistic beauty, and because, in conjunction with the other medals I now possess, it is a definite and indisputable recognition that I am what I claim to be — the champion strong-man of the world.

Following is what was said of the performance by the Chicago *Herald* the next day:

(*Chicago Herald, September 5, 1893.*)

"FESTIVAL HALL CROWDED AGAIN — EXCELLENT MUSIC AND SAMPSON'S EXHIBITION OF STRENGTH HEARTILY APPLAUDED. — Festival Hall did its

usual immense business yesterday afternoon at the international entertainment. Few of the 6,500 seats were empty. Beginning with the overture by Captain Hecker's Elgin band of sixty, there was much applause for each number. The Guatemala Indians played the marimba and the Hungarian orchestra executed several selections.

"The best feature was the exhibition of giant strength by Sampson. He broke, with his bare hands and arms, chains which Chief Murphy of the fire department had tested and kept in his possession until used in public. He had them hitched to a team of horses and a four and one-half ton engine. Sampson broke them with apparent ease. He also had twelve guards stand upon his chest, his body being suspended between two chairs."

I may here add, that my challenge to the world, offering odds of ten to one that no one could perform my feats, has not been accepted, though it has lain open since two years before my victory at the Exposition.

It would occupy too much space, and try the patience of my readers, were I to describe at length all my different feats. I will, however, add a few more newspaper extracts giving accounts of a few of my performances.

(*Evening Post, Chicago, September 1, 1893.*)

"It is Sampson against Sandow. The former was privately 'viewed' yesterday at the Grotto, and on Monday night will begin his engagement there. He is a handsome fellow, of rather more slender and perhaps more elegant figure than the strong man of the Trocadero, and breaks chains and coins with a merry nonchalance that suggests the ancient Samson and the bonds he snapped like so much flax. He, too, has a chest feat. Sandow holds three horses upon his breast; Sampson holds up a dozen men whose total weight is a ton. On Monday night he will 'hold up' eighteen members of the orchestra — with their instruments thrown in for make-weight. He holds a champion belt for lifting in harness 4,000 pounds, and he takes his ante-breakfast exercise with a 400-pound dumb-bell. Sampson wants to meet Sandow in

competition. He looks on Sandow as a Philistine and wants to 'spoil' him. A match may take place at the Grotto. The two men met at the Royal Aquarium in London, in November, 1889. But the competition—which was witnessed by this writer—was not altogether satisfactory. Sampson and his managers considered that he was very badly treated, and there was some ground for their dissatisfaction. It is, of course, no abridgement of the reputation of Sandow to express a doubt of his ability to do all that Sampson can. Sandow can do many things which Sampson can not do. At the Aquarium competition, the referees, Lords Queensberry and De Clifford, declined to allow Sampson to test Sandow except with the feats which Sampson had been performing nightly. They held that the challenge should be confined to those strictly. All of these Sandow did perform, and thus made a successful response to the challenge. But when Sampson proposed that Sandow should try to break a certain strength of leather strap around the chest, the referees declined to allow it on the ground that Sampson had not been regularly performing that feat at the Aquarium. Whether Sandow could have broken it is an open

LIGHT DUMB-BELL EXERCISE NO. 2.

question. If the two men meet at the Grotto let this be the chief and test feat to illustrate their comparative muscular power."

(*Newark, N. J., Times.*)

"SAMPSON A WONDER—WILL BREAK CHAINS THAT BREWERY HORSES CAN'T BREAK—AN EXHIBITION TO BE GIVEN TO-DAY OF A MARVELOUS FEAT OF STRENGTH—SAMPSON'S OPINION OF SANDOW—AN INTERESTING HISTORY.

"Sampson, the strong man, who is electrifying the audiences at Waldmann's Theater this week, came by his immense muscular power in a strange way.

"According to the story told by Sampson last night to a *Times* man, he, at the age of fourteen years, was struck by lightning. The shock rendered him unconscious for several hours, and he was confined to his bed for six months after.

"Soon after his recovery Sampson began to take on flesh and soon developed great muscular strength. Inside of a year the bed-ridden patient for six months was giving displays of strength, and he has kept it up for eighteen years.

"Sampson claims to be the strongest man on earth. This title he claims he fairly earned in a test in London; with harness, Sampson lifted a dead weight of 4,000 pounds.

"According to Sampson, Sandow, the much talked about 'perfect man,' is a fancy-weight lifter. Sampson declares Sandow is not in it with him, else the latter would accept his challenge for $10,000 a side (a $250 forfeit for which was posted with the *Police Gazette*), at six feats at weight-lifting. Sandow never answered Sampson's challenge.

"Bobby Manchester, proprietor of the French Folly Company, would wager a good bit on Sampson against Sandow. Manchester is a game bettor on a good thing. Recently he won $5,000 on the Fitzsimmons-Creedon fight. Sampson is the originator of chain-breaking feats. Last night at Waldmann's six men tried to pull apart a chain that Sampson snapped asunder on the biceps of his arm.

"The latter claims that two horses can't break these chains, and this morning a practical test is to be made. At 11.00 A. M. two of Wiedenmayer's brewery horses will try to pull the chains apart.

If they succeed Sampson forfeits $100 to charity. If he fails then to break similar chains he will forfeit another $100. The test will be made in front of Waldmann's Theater.

"Sampson is about thirty-five years old, handsome, and finely formed. He was born in Metz, Lorraine, and came to America when but two years old. His father is a Frenchman and his mother of Spanish origin. In condition this modern Hercules weighs 175 pounds. At present the greatest feat in his daily performances is that of bearing an immense model of the Ferris wheel, lighted with electricity, containing twenty cars, on his chest."

(*Boston Herald, July 8, 1893.*)

"STRONGER THAN TWO HORSES—SAMPSON EXHIBITS HIS GREAT STRENGTH IN PRIVATE—BREAKS WITH HIS BICEPS A STEEL CHAIN WHICH TWO LARGE HORSES WERE UNABLE TO REND—GIVES AN EXHIBITION OF HIS POWERS AND EXPLAINS HIS SYSTEM OF TRAINING.

"Sampson, the strong man, spent yesterday morning with his manager in driving all over

Boston to find a steel chain of three-eighths-inch wire, which he desired to use in a private exhibition, to be given at the house of engine 26, back of the Boston Theater. He was told by the hardware dealers that the chain which he himself used to break over his biceps, a three-eighths-inch steel wire link, was stronger than any chain they sold. Being desirous of demonstrating to a skeptical contemporary sheet, which had published the story that he used acids on his chains, that he honestly performed his feats of strength, Mr. Sampson obtained permission from the fire commissioners for an adequate test at the above-named place of the chains he used, and yesterday afternoon at 2.30 o'clock he gave the private exhibition.

"Two chains of the sort Mr. Sampson breaks nightly were produced. If the strain were insufficient to part the links he intended to break them then and there himself. Chief Webber, Chief Egan, Fire Commissioner Fitch, and a lot of reporters were present to witness the feat.

"The two chains, which were linked so as just to fit the strong man's biceps, were fastened in such a way to a heavy wagon as to bear all the strain when it should be started. The wagon

LIGHT DUMB-BELL EXERCISE NO. 3.

happened to be loaded with cannel coal and was estimated to weigh 5,500 pounds. Two big, sleek horses were then brought out and hitched on to the chains. They started the wagon without the slightest injury to the chains. Heavy rocks were then placed under the wheels, and thus prevented the big horses from starting the wagon at all; but still the little steel chains remained intact. In the last trial the weight must have been several thousand pounds heavier.

"Mr. Sampson then threw off his coat, and baring his arm, adjusted the two chains to his great right bicep. He stiffened it once as a preliminary, and then, summoning up the phenomenal latent strength which is in him, he slowly drew up his forearm. The tension of muscles was tremendous and the perspiration started from his face in little rivulets. Snap! went one of the chains and flew several feet away.

"As is his custom, he had expected to break both, but the chains having been slightly stretched by the horses, he failed. Being dissatisfied, however, with the exhibition, he insisted on another trial.

"Producing two other chains, and satisfying

everyone present that they were in all respects as sound as the others, he gave a still more wonderful exhibition of his strength by adjusting the two chains to his bicep and breaking them both by another muscular contraction.

"There was no fake about this exhibition. Mr. Sampson has a standing stake of £50 with a London sporting paper to meet any one in feats of strength. Cyr, the Canadian strong man, he has already vanquished. One of his feats is of grasping a quart champagne bottle by the neck with his right hand, the bottle being filled with liquid, and working it up through his hand by his thumb and fingers until he has the bottle by the bottom resting on his palm. Try it with a fairly good-sized bottle and see if it is easy.

"He was born in Alsace in 1851, and for twelve years has been breaking chains. He may continue it, as he says, for a few years longer, if his strength lasts. But in lifting feats he may keep his strength for many years yet.

"After the exhibition each reporter was presented with a link of the steel chain he had broken."

(*Sporting Life, London, August 10, 1891.*)

"SAMPSON'S WONDERFUL FEAT— WORKING ALL DAY LIFTING MAMMOTH WEIGHTS.

"Just how much strain the human frame can endure has always been a mooted point, but it is very doubtful if any human being ever went through such a muscle-wrenching and strength-exhausting performance as did Charles A. Sampson at the Royal Aquarium, on Saturday, when he gave twenty of his ordinary performances instead of the two seances that make up his usual day's work. The cause of this marvelous exhibition was a controversy that arose between Mitchell Shmidt and Charles Sampson ten days ago, in which the first-named claimed that he could show feats of strength that were in no wise inferior to those of Sampson. The latter retorted in kind, alleging that while Shmidt could not do his (Sampson's) feats once, he could go through the performance himself twenty times in any one day. Shmidt, thinking he saw a chance to increase his bank capital, at once offered to bet Sampson £100 that he could not make good his words. Just here a little

hitch occurred, as Chairman Ritchie informed Sampson and Shmidt that they could not settle any wager in the Aquarium, but if they liked to donate a certain sum to some charitable institution the test might take place in his place. This met the views of both men, and they signed an instrument, the gist of which is as follows:

"'Articles of agreement entered into this the first day of August, 1891, between Charles A. Sampson of Detroit, Mich., and Mitchell Shmidt of London, England, wherein Charles A. Sampson agrees to go through his regular performance twenty times during Saturday, August 8th, between 12 o'clock meridian and 12 o'clock midnight. Failing to fulfill these articles of agreement, Sampson agrees to donate £20 to the Westminster Hospital. Should Sampson accomplish the twenty performances, then Shmidt must donate £20 to the Westminster Hospital. The whole £40 is deposited with Mr. Ritchie, who will forward same to *Sporting Life*, which will be final stakeholder. The performances to consist of the following feats: Lifting a barbell, weighing 100 pounds, with left hand; lift-

LIGHT DUMB-BELL EXERCISE NO. 3.

ing a bar-bell, weighing 160 pounds, with two hands; lifting a bar-bell, weighing 200 pounds, with right hand; lifting a bar-bell, weighing 200 pounds, with two hands; lifting a bar-bell, weighing 320 pounds, with right hand; lifting a bar-bell weighing 320 pounds, with two hands; lifting a bar-bell, weighing 1,202 pounds, with two hands; breaking coins with the fingers; breaking a short piece of chain with a straight pull; breaking two bracelets on the left or right arm; breaking chains with the fist; breaking leather straps or chains on the chest. Should Sampson miss two tricks in any one of the first five performances, to be declared to have lost; should Sampson miss three tricks in any one of the next fifteen performances he to be declared the loser; Sampson to have the right to leave out any one trick that he may deem fit at each performance, and also to be allowed to arrange his programme as he sees fit; Sampson to be allowed an interval of fifteen minutes between each performance, and also to be allowed his usual attendants and his doctor on the stage; Eugene Sandow to act as Sampson's umpire, and Shmidt to act as his own umpire.'

"The only change in these articles was the substitution of Captain Tyler for Eugene Sandow as Sampson's umpire. The *Sporting Life* appointed E. Plummer to act as referee.

"On the face of it Sampson was called upon to lift 51,640 pounds in dead weight, but as he went through the manual of arms with the 160-pound bar, he had to use three distinct lifts, so that his total or dead-weight lifting would be 61,240 pounds. Just what amount of pressure was used in the breaking of the coins, chains, etc., is merely a matter of conjecture, but it must have been something enormous. Taking the performance in its entirety, it was a marvelous one.

"Just before noon Mr. Shmidt made his way on to the stage, and examined the weights and chains. They were not put upon the scales, as Shmidt said he was satisfied that the implements were the same as Sampson used in his daily performance. It is a pity that Sampson did not elect to have his bells weighed, as he might have gained a world's record for dead-weight lifting.

"Sampson elected to give three shows at every raising of the curtain, and this would give him

more time to prepare his paraphernalia, and give him more rest. At first he worked a little slowly, but he soon warmed up, and finished his thirty-three feats (the breaking of the chains on the chest was left out this time). The three shows occupied just twenty-three minutes, which is about half the time that one ordinary show takes up. The second batch of shows were got through in 24 minutes 15 seconds. This time the full twelve feats were gone through, and in the coin-breaking Sampson split a three-penny piece, a sixpence, and a shilling. The seventh, eighth, and ninth time passed off without any special incident, but Sampson was perceptibly slower, taking 28 minutes 30 seconds for his thirty-six tricks. During the eleventh round Sampson struck his first snag. It was while he was breaking the short pieces of chain with the straight pull. The perspiration had saturated his gloves to such an extent that this chain slipped through his hands. Mr. Shmidt claimed a failure, which was not allowed. Shortly after this Sampson's right arm began to fail him, the iron bracelets cutting into his flesh like a knife. He signified his intention of

passing this feature, but the plaudits of the spectators nerved him up to a final effort, and he went through his task successfully. This turn took 51 minutes 43 seconds. From this point out there was no special incident, excepting that Mr. Shimdt asked to have the weights examined in order to see whether they had been changed. As the officials had never lost sight of the implements any substitution was impossible. The fifth turn took up 27 minutes 3 seconds, and the sixth, which made up the sixteenth, seventeenth, and eighteenth performances, occupied 32 minutes 30 seconds. The last two performances, which were begun shortly after 11 o'clock, were finished in 33 minutes. Twice while lifting the 200-pound bell, the weight overbalanced Sampson, but he finally elevated the implement in good style. Finding that he was getting dangerously tired, Sampson left out lifting of the 300-pound bell. The bracelets cut still farther into his arm, and when he had finished, that member was in a terrible condition, and it is very doubtful whether Sampson could have gone through another performance. Sampson was at work

LIGHT DUMB-BELL EXERCISE NO. 3.

for 3 hours 40 minutes 1 second. He missed but seven feats out of the entire programme, leaving him a leeway of thirteen.

"During the evening Mrs. Sandow watched the performance, and Professor Schalkenberg cheered the athlete with some splendid music on his electric orchestrion."

(*Extract from London "Tit Bits," 1885, and "Frankfurter-Zeitung."*)

"A native of Alsace is now exhibiting his extraordinary muscular powers under the name of Sampson. Among his most interesting feats are the following: He takes an iron ring $\frac{3}{8}$-inch thick, which he slips over his upper arm, after rubbing the latter with oil. He then distends the muscles of his arm, and the ring assumes an oval form, and is handed round among the spectators to convince them that 'there is no deception.' He next takes an iron chain, the links of which are $\frac{3}{8}$-inch in thickness, and, after waving it two or three times in the air, snaps it asunder with a jerk. The pieces are shown around. He afterward takes three chains—one in the left hand, the second

over the neck, and the third round the right wrist. All three are secured to the floor. Suddenly, springing up from a stooping position, he breaks all three of them, amid the plaudits of the crowd. Two other instances of his Herculean strength may be of interest. Last year Mons. Sampson entered a factory where a small engine was at work; he entered into a wager that he could stop it with his arms. Everybody laughed at him. However, he made the attempt, and won his bet. Not long ago he was taking several ladies home from a party, when they encountered a group of rowdies who made some offensive remarks. Sampson struck four of the fellows to the ground, and their yells attracted the police, who, taking him for the aggressor, proceeded to handcuff him, to which he quietly submitted. But no sooner had he been thus secured than he snapped the chain and put the policemen to flight, after a fruitless endeavor to convince them of the real state of the case."

(*Buffalo Evening Times, February 27, 1894.*)

"MIGHTY SAMPSON—HE BREAKS IRON CHAINS AS EASY AS EGG SHELLS—SUPPORTED FIFTEEN MUSICIANS ON A PLATFORM UPON HIS CHEST.

"C. A. Sampson, 'the strong man,' who is with 'The Paymaster' company now at the Lyceum, performed some really wonderful feats last night. That which elicited the most unbounded applause was one illustrating the possibilities of muscular expansion. Taking a heavy iron chain which a blacksmith pronounced to be perfect in every link, Sampson placed it on his extended arm between the elbow and the shoulder. Then he slowly raised the arm, and when the forearm was parallel with the body, the chain snapped as if it were but a thread of egg shells, and fell to the floor. The Marquis of Queensberry once saw Sampson perform this feat in London, and as a reward gave him a gold chain of the same weight and pattern.

"Sampson also supported a platform upon his chest upon which the entire Lyceum, fifteen in number, stood at one time and played an air. He also lifted dumb-bells and steel bars, weighing 200 and 300 pounds. from the floor with one arm,

raising each straight before his head, and then slowly lowered it again. To illustrate the strength of his fingers, he broke in twain silver coins and iron disks.

"After the performance Sampson gave a reception to the physicians of the city, many of whom were present. Nearly all declared Sampson a perfect specimen of manly strength.

"Sampson is perfectly sincere in his idea that he can defeat any pugilist living by allowing them to strike his adamantine flesh at close quarters, thus giving him a chance to break their arms. Yesterday he called on Jackson and proposed to fight him for $10,000 a side three months after his fight with Corbett is settled, but Jackson reiterated his determination to retire from the ring forever after that affair. It is quite within the range of possibility that Sampson may be matched against some good boxer.

"John L. Sullivan's whilom friend, but now bitter enemy, Duncan B. Harrison of 'The Paymaster' company, said when he first heard of Sampson's scheme that he considered it supremely ridiculous, but he now admits that there may be something to it.

LIGHT DUMB-BELL EXERCISE NO. 4 — RESTING WEIGHT ON TOES.

"By the way, Harrison was in Corbett's corner when he fought Jackson sixty-one rounds without result, and declares that it is true that the black man was suffering from an injured ankle.

"'It was nearly, if not quite, as large as the calf of his leg,' said Harrison, 'and if Jackson had then been the man that he is to-day, Corbett would probably have never been heard of east of the Rocky Mountains. Wonderfully as Corbett has improved since that time, he will have the task of his life to defeat Jackson in their coming encounter.'"

(*The Detroit Free Press, December 10, 1893.*)

"Sampson, the strong man, is home again, after successful seasons in the old country and at Chicago. He was a World's Fair attraction and was about the only thing worth seeing at the carnival of sports in the live-stock pavilion on Chicago Day. For his fine performance on that occasion the World's Fair Athletic Club gave him a handsome gold and diamond medal, one of the finest in his collection. His last appearance was at New Orleans, where, in addition to his salary at the

theater, he picked up $500 rather easily. J. C. Bach, a Crescent City sporting man, said one night that Sampson's feats of strength were exaggerated and, as Sampson happened in the same café at the time, a warm argument followed. According to the *Picayune*, Mr. Bach said that Sampson could not break a quarter made at the United States mint, and that he would wager $500 upon his statement. Sampson accepted the proposition, and said he would be ready when Mr. Bach called. The money was posted, and yesterday was selected for the test. Harry McEnerny, 'Bantam,' was asked to be stakeholder, and, although he declined, he accompanied Sampson to the mint.

"Mr. Bach and several friends were waiting there for the strong man's coming. Few people knew of the wager, but those that were told of it were eager to see the test, and it created a great deal of excitement among the employes in the money factory.

"Sampson soon announced himself as ready to break the money that would be offered. Mr. Bach purchased a 25-cent piece and handed it over to Mr. McEnerny, who examined the coin on behalf of Sampson. The money was then passed to the

latter. Sampson bared his magnificent pair of arms and strained to get a grip on the small surface, sufficient to enable him to use his full strength in breaking it. Sampson tugged at the coin for a minute, and Mr. Bach seeing the giant grow crimson in the face, thought his wager was won. Sampson did not release his hold and slowly, but surely, the coin was yielding. Two minutes elapsed, and the coin was not yet broken. When the watch showed that he had been struggling two minutes and a half, he began to smile, for the coin had started to bend under the pressure of those powerful arms; when three minutes elapsed, the piece gave a snap and Sampson presented the broken sections to Mr. Bach and his friends, proving to them that his feats were genuine.

"Sampson then turned to the gentlemen and said: 'I will break a half-dollar as a compliment to you.' Grasping a bright, new coin of that denomination, he parted it in less time than his first feat. Mr. Bach took his loss good-naturedly, and Sampson made the party his guests at supper."

This concludes the history of my life, which, as I said before, I have not narrated because I

think it to be of any special interest or importance, except in so far as it throws light on the methods by which I attained my exceptional muscular power, and shows how my system of training has resulted in gaining for me the fairly-earned title, "THE STRONGEST MAN ON EARTH."

LIGHT DUMB-BELL EXERCISE NO. 4.

CHAPTER III.

PRELIMINARY INSTRUCTIONS.

I SHALL now endeavor to place before my readers, in as concise and simple a manner as possible, the details of my original method of developing the muscles and strengthening the entire physical system — a method that can be carried out without the use of any expensive or complicated apparatus, and does not necessitate attendance upon athletic schools.

A "strong-man," in the professional meaning of the word, is born, not made. Every man, unless he is physically incapacitated for any effort, can develop a large measure of strength by following my instructions; but, on the other hand, every man can not become a successful professional strong-man by any method, no matter upon what right principles it may be based. It is not different in other

walks of life. For instance: Anyone can attain a certain degree of proficiency in acting by constant practice; but few possess the inborn capacity, the natural gifts, that enable them to become "star" actors. Alike with the strong man and the actor, inherent aptitude, in short — genius, is absolutely essential if he is to reach the highest eminence in his profession.

The *primary* requisites for a strong man who would become a strong-man are, that he should have head as well as heart; in other words, that he should possess the fortitude of a Spartan, pluck to endure punishment, endless patience, extraordinary endurance, and unbending will-power, all of which endowments, though they can be developed to some extent, are inborn qualities that can not be wholly, or, indeed, in any very large measure, acquired. But above and beyond all these attributes it is necessary that he should be possessed of that spark called "genius," which alone empowers him to put to their full use these primary requisites.

If a man be sound in wind and limb; if his heart, lungs, and kidneys are not organically impaired, by following my instructions he can harden his museles, strengthen his heart, and develop his lungs to an extent that will surprise him, and enable him to endure for hours exertions that, without such training, it would be absolutely impossible for him to stand; or, if he did aceomplish them, would lead to perilous or fatal exhaustion. I wish, however, to state here, once for all, that if any of the important organs of the body are organically diseased, although a man can not fail to be more or less benefited by the course of training I am about to suggest, he can not hope to gain any extraordinary degree of strength by this or by any other system. A strong heart to force blood through tense museles, powerful lungs to thoroughly oxidize the blood on its return trip to the heart, and healthy kidneys, are all absolute necessities to him who would exeel in feats of strength.

The strong-man profession has made rapid

strides within the last few years, and I think I may say, without undue egotism, that the records I have set have had no little to do with the advancement; for they have caused many aspirants to emulate my feats. What were considered great performances a decade ago, have since been so far surpassed by myself and others that they would to-day be laughed at.

My success has been largely due to the more rational and natural system of training that I gradually learned and perfected throughout a long experience; indeed there is as great a difference between the methods I now pursue and advise and those followed when I first entered the profession, as there is between the feats of to-day and those that were considered great ten years ago. On pages 19, 23, and 29 the exact reproductions of three photographs of myself, taken in Chicago during February, 1895, give a fair idea of the development of my muscles under the system I follow and teach.

The following measurements of myself, taken at the time, will aid the better comprehension of the illustrations:

LIGHT DUMB-BELL EXERCISE NO. 5 — LYING ON BACK.

Neck	17 inches.
Chest (contracted)	39 inches.
Chest (normal)	43 inches.
Chest (expanded)	58 inches.
Biceps	19 inches.
Wrist	4½ inches.
Forearm	16½ inches.
Calf	16 inches.
Thigh	26½ inches.
Height	5 feet 7 inches.
Weight	175 pounds.

It is well to remember that to develop muscular power, and what is of equal importance, to learn how to use one's strength, can not possibly hurt anyone, old or young. In particular every boy should be taught early how to develop his muscles and how to employ them. The possession of the strength and knowledge thus acquired, will make him healthier, more self-reliant and manly, and furnish him a solid foundation upon which to build during the rest of his life. Should a youth excel in lifting great weights and performing other feats of

strength and endurance, it is by no means necessary that he should become a professional strong-man; he will be in the happy position, however, where he can always defend himself and possibly at times protect others. The possession of strength and endurance, and their almost universal accompaniment, courage, far from inciting their possessor to deeds of violence, develops a buoyant relf-reliance that inclines to good-natured peacefulness. The cowardly knife or pistol has never been the weapon of the strong-man. He glories too greatly in his own powers to descend to such methods of defense.

As well as developing muscular strength, and teaching how it may be fully utilized, I find that my method unfailingly improves the health of the delicate and maintains that of the robust. When its details are studied it will be found that I do not advise violent exercise, which, especially in the case of untrained persons, is apt to prove highly injurious. Daily light exercise, increased reasonably as muscular development progresses,

LIGHT DUMB-BELL EXERCISE NO. 6.

produces much better and more lasting results than intermittent, severe effort.

The majority of prize fighters and professional wrestlers go through a course of extreme exercise, pushed almost to the limit of endurance, for a few weeks, to prepare themselves for a contest that may only last a few minutes, or at most will be counted by hours, after which they usually cease training and live inactive lives until called upon to fit themselves for the next contest.

All this is entirely against common sense, and opposed to hygienic laws. It would be as rational to stay in bed for weeks and allow the muscles, nerves, heart, and lungs to lose tone and become flaccid, and then suddenly jump up and go through violent and exhausting exercise. The result probably would be, if disaster did not immediately occur, to sow seeds of diseases which would blossom later into fatal heart failure. Professional strongmen never build up their strength by such violent methods, and, as a result, many hale and hearty old men can be found who once were

of that profession; but to how many aged prize fighters can one point?

Exercise carried to the point of exhaustion I am entirely opposed to; on the contrary, the aim of my method is to develop and strengthen the body with a minimum of exertion and absolutely no straining, in a manner that will result in a lifetime of vigorous bodily health, associated with no less vigorous mental force. Indeed, the latter endowment is so dependent upon the former, that the full use of intellectual power is impossible to one handicapped by a feeble body. My system, therefore, in a sense, aims to develop brain as well as body.

CHAPTER IV.

HYGIENE.

THE hygiene of my system is not onerous. I do not advise any special course of diet; the same intelligent temperance in eating and drinking that is necessary to the perfect use of mental or bodily faculties in every walk of life, is all that is necessary to obtain the best results from my system. A few general rules based on common sense may, however, be laid down.

For those who have a tendency to corpulence, it is advisable to eat as little butter and fatty substances as possible, or foods containing a large proportion of starch — such, for instance, as potatoes and most vegetables; but they need not fear to eat meat (with as little fat as possible), nor eggs, in ordinary moderation, nor bread, which, though containing much starch, is the least fattening of such foods. For those, on the contrary,

who are inclined to be thin, stareh and fats are advisable. Pies and sueh trash are equally poisonous to every class of person that seeks to acquire strength. The severe course of purging that used to be reeommended by athletie instructors as an introduetion to training I believe to be worse than useless.

Since reeovering from the effects of the lightning stroke mentioned in my autobiography, I never suffered a day's sickness, except when it has been brought on by some such accident as the sword-eut inflieted on me at Strasburg. I know, therefore, very little about drugs, and find the exercise I take keeps me in perfeet health, and I can promise those who follow my system that within a short time they can throw away all doetor's prescriptions, medicine bottles, and pill boxes. The only thing in the nature of a drug that I have taken in years is sarsaparilla. This natural blood-purifier I find benefieial in spring and autumn — seasons when one is apt to be a little out of sorts — and, also, at times when, for some reason or

other, I have been cut off from my usual allowance of exercise. A few days of idleness always make me listless, and when the opportunity for exercise again presents itself I feel disinclined to begin. I then take a few doses of sarsaparilla, which soon frees me from lassitude. Receipts for making a decoction of this root can easily be obtained, or the ready-made extract manufactured by druggists will be found equally efficacious.

I am now about to tread on dangerous ground by speaking of the use of tobacco and spirituous liquors. Tobacco in any form, without doubt, is injurious to him who would excel in feats of strength. Nicotine, either volatilized and absorbed as smoke, or taken into the system through the chewing of tobacco, is a distinct heart depressant, and the folly of depriving the heart of any of its force is apparent when the following facts are considered:

When a muscle is being exerted, the tissue it is composed of becomes rigidly compressed, and it takes the unimpaired power of the heart to force the blood through the constricted veins

and arteries of that muscle in sufficient quantities. As has been before stated, it is a physiological fact that when any organ or muscle is brought into action an increased supply of blood is immediately required by it, the increase being proportionate to the severity of the work performed by the organ or muscle in question. If, for instance, the biceps are brought into active play, a fuller circulation of blood through them is an absolute necessity if they are to perform their function properly. During exercise, therefore, the heart is not only called upon to pump a fuller supply of blood, but it is also required to drive it through veins and arteries contracted by tensed muscles. In short, when muscles are being exerted the heart is called upon to do not only more, but harder work. The folly of the use of tobacco, or any other substance that tends to weaken the heart's power, by those who aim to perform feats of strength, is therefore at once apparent.

Another injurious feature of the tobacco habit is the frequent expectoration of saliva,

HEAVY DUMB-BELL EXERCISE — READY.

habitual with so many smokers, and all chewers. Saliva is provided by nature as a solvent to promote the digestion of food, and the result of spitting it away is either that the food is imperfectly digested from a lack of it, or that an increased supply is manufactured to make the loss good — an extra tax being imposed on the system in both cases. In either event muscular development is retarded and vitality is sapped. I know it is useless to expect, except in very few instances, the entire abandonment of the fragrant weed, but I wish to impress upon my readers, as strongly as possible, the advisability of not smoking for at least half an hour before, during, or half an hour after exercise. Such abstinence does not call for any great amount of self-sacrifice, and the resulting benefit will far more than compensate for the deprivation.

What I have advised as to eating applies equally to drinking: *be moderate.* I realize that the question of alcoholic liquors is even a more ticklish one than tobacco to touch

upon, and that no matter what I counsel, I am bound to wound the susceptibilities of some. I shall, however, state my opinion — which is entirely unprejudiced and based on experience — without fear or favor. It must be remembered, however, that what I have to say regarding the matter applies only to those who put themselves under my athletic tuition, and to no others.

To those inclined to corpulence, beer is distinctly detrimental, whilst the light, white wines of Germany appear to be harmless, and are, in many cases, highly beneficial. With most people these wines aid digestion and promote assimilation, and anything that furthers these important functions unquestionably coöperates with exercise in the development of muscle.

To those who do not acquire flesh readily, a little beer is not detrimental if it is easily digested, and both the white and red wines of France and Germany are usually advantageous. There are, of course, many persons so constituted that they should leave alcoholic

beverages of every kind severely alone — those disposed to gout, for instance.

Spirits and water, instead of wines or beer, are preferred by some people, and apparently suit them better. There is no reason, as far as muscle development is concerned, why they should not indulge their taste in moderation.

In all cases I strongly deprecate the use of stimulants between meals, and advise their use only whilst eating.

Over-indulgence in any form of alcoholic drink is fatal to the acquirement of sound muscle or the performance of feats of strength. The artificial stimulation of the heart's action caused by such excess is followed by a severe depression, which is accompanied by all the ill effects, greatly accentuated, described as resulting from the use of tobacco; and this is but one of the innumerable injurious consequences that are sure to follow intemperance in this direction.

It is, perhaps, superfluous to add that it is of the first importance that all liquors should be pure and of the best quality. New or

adulterated wines, spirits, or beer are poisons to the athlete.

A cold bath or sponge-down, followed by a smart rubbing with a rough towel, will be found of the greatest service after exercise. The benefit resulting from this practice is two-fold. In the first place, the slight shock caused by the sudden application of cold water to the skin is followed, in the healthy, by a reaction that is invigorating and tonic; and secondly, the pores of the skin are kept open and in free working order. The importance of this latter result is evident when the following facts are considered.

The blood is continually building up new muscle-tissue, the old breaking down and being carried off by the special organs which nature has provided for that purpose. If the first of these functions — tissue building — is retarded, in so much will the development of muscle be diminished; hence, the necessity for a full supply of the rich blood which is manufactured from appropriate food, prepared by a healthy digestion. But what is of fully

HEAVY DUMB-BELL EXERCISE NO. 1.

equal moment is to keep the organs that carry off the broken-down muscle-tissue in full and unimpeded working order. One of the chief means by which the body rids itself of this debris — which soon decomposes and becomes poisonous if not regularly excreted — is by casting it out through the pores, which are nature's drains. Nothing is more certain than that if broken-down tissue is not quickly and entirely expelled impaired health will result. This fact is powerfully exemplified during an attack of fever, when more tissue is broken down than can at once be carried off, the undischarged excess decomposing and causing blood poisoning, and possibly death.

One of the effects of exercising a muscle is to break down its tissue with increased rapidity. Hence, for those who exercise their muscles there exists a double necessity for precaution, lest the channels which are intended to carry away the poisonous, broken-down muscle-tissue should become clogged or inactive. Nothing is better than the cold bath, followed by vigorous rubbing, to keep the

pores unimpeded and in good working order. By those unfortunately-constituted people who, because of a weak power of reaction, can not stand the delightful shock of cold water, tepid water can be used, the temperature of it being gradually lessened from time to time, until at length entirely cold water very likely can be borne.

CHAPTER V.

TRAINING WITHOUT APPARATUS.

WALKING is an excellent adjunct to the special course of exercises I advise hereafter, and is particularly beneficial to business men who lead a more or less sedentary life.

As with every other form of activity, walking should be practiced in moderation. How long a distance constitutes moderation is easily learned from nature, for immediately weariness is experienced the limit of safety has been reached. Tiredness precedes exhaustion, and is in the nature of a warning that that danger point is being approached. Be satisfied to begin with a mile or two miles a day if a longer distance fatigues.

During the walk practice inflating the chest to the utmost extent and then driving out the air till not an atom is retained in the lungs. This is a most excellent exercise, which not only develops the lungs and the muscles of

the chest to a wonderful extent, but also thoroughly oxidizes and purifies the blood, and drives out poisonous remnants of earbonie acid gas that are apt to linger with ill-effect in unused eorners of the lungs. The feeling of vigorous exhilaration that follows half an hour of this practice is delightful.

It is an instructive lesson in this eonnection to measure the eireumference of the chest before beginning a course of this exercise. Run the tape around the ehest when it is at its natural middle expansion; again when it is fully inflated, and a third time when eontracted by eomplete exhalation. A month later repeat the measurements, and compare the figures then obtained with those first noted. It will be found that the ehest, even in that short time, has inereased in girth, and that there is a greater differenee between the eontraeted and expanded measurements than formerly. This habit of deep breathing, with all its attendant benefits, will before long become seeond nature to those who praetiee it as I advise.

HEAVY DUMB-BELL EXERCISE NO. 1.

Extreme inhalation and exhalation should not be practiced in ill-ventilated rooms, nor in places where many people are gathered together, and where, therefore, the air is sure to be more or less vitiated. Keep this exercise for out-of-doors and, best of all, practice it whilst walking, but never when smoking. A slight soreness of the muscles of the chest may at first be caused from their unaccustomed stretching, but this will soon pass away, and is of no importance.

If business men would make a habit of thus breathing, and of walking a part of or all the way to their offices in the morning, instead of riding, they would find their heads clearer during the day, and be less liable to fatigue from severe brain work, and by repeating the performance when going home, an appetite for dinner (or whatever the evening meal may be) would be created, recalling the happy, hungry days of youth.

The proper way to perform this breathing exercise is to draw a long, slow breath, throwing the shoulders slightly back and inflating

the lungs until one nearly lifts himself off his feet, and it becomes an absolute impossibility to inhale another atom of air or to distend the ribs a hair's-breadth farther. Retain the air thus drawn in for two or three seconds, then slowly expel it and contract the chest until it feels as if the breastbone were touching the spine; in fact, squeeze out the lungs until they are absolutely empty of air; then slowly inhale again, and keep on repeating the performance *ad infinitum*. This grows to be a favorite exercise with every one who gives it a fair trial.

It should be observed as an invariable rule not to actively exercise for an hour or two after eating. During the process of digestion an extra allowance of blood is called for by the stomach, and it is detrimental to draw it away from that organ and impair its action, as would be done if muscles in other parts of the body were actively exercised. It is nearly or quite as dangerous, however, to exercise when hungry or faint, or when more than five or six hours have elapsed since a meal. When any

of these latter conditions exist and I am obliged to exert myself, I take a cup of broth made from some beef extract. This is absorbed and assimilated almost immediately, its invigorating and nourishing influence being at once felt. After prolonged exertions, also, I recuperate myself in the same way. Sometimes after a protracted performance, when the audience has insisted on the repetition of feats that, even when done once, call for the use of my utmost strength, naturally I am fatigued, more or less, and feel the want of some readily assimilable nutriment. From time to time I have tested the efficacy of tea, coffee, and alcoholic beverages for this purpose, but now have discarded them all as inefficient, using in their stead one of the many concentrated extracts of beef which are now to be found on the market. The broth can be prepared at a moment's notice, which is an important consideration, by simply putting a teaspoonful of the extract in a cup of hot water and stirring it for half a minute. I now use it just before and, when there is a break in

the programme, during the exhibition, as well as afterward.

I have before warned my readers against exercising to the point of exhaustion, but should they ever unwittingly do so, they will minimize the evil effect as far as possible by the use of some such preparation as this, which, in such cases, is far preferable to the alcoholic stimulants that formerly were considered the proper restoratives. Even when exertion has not been carried to the point of exhaustion, but one feels healthily tired, it will be found beneficial to take a cup of beef extract, for when tissue has been rapidly broken down — as it is when muscles are actively used — the system is in a peculiarly fitted condition to absorb nutriment and build up strong new tissue in place of that which has been lost. Some food that is quickly assimilable is then called for, if full advantage is to be taken of the opportunity.

HEAVY DUMB-BELL EXERCISE NO. 1.

CHAPTER VI.

SPECIFIC EXERCISES.

I SHALL now proceed to give instructions regarding the use of the few apparatus requisite to carry out my system fully.

The appliances necessary are rings, dumbbells, and a Roman column, the last mentioned not being absolutely essential, as will be explained later on.

The Use of Rings.

The value of rings as apparatus for muscle development was discovered accidentally by me during my childhood, whilst lying ill in bed, as narrated in the pages giving an account of my life. From that time — now so many years ago that I hardly like to number them — until to-day, I have never ceased using these great promoters of strength and health, my faith in them ever increasing as I witness fresh evidences of their value.

The prime object of the ring is to compress the muscles which it encircles, and thus to automatically massage them whenever movement of the part takes place. How effectually this is done can be learned by firmly grasping the arm around the biceps and then raising and lowering the forearm. The biceps will be found to change in shape with every angle of motion, so that when they are constantly grasped, as they are when the ring is worn, continuous and thorough massage of the part is effected by the multifarious use to which the arm is put during the day.

The great benefit of massage in limbering muscles stiffened by disuse or disease is now fully recognized by physicians and advanced professors of physical training, and my experience has led me to the conclusion that it is certainly no less useful to muscles possessing their full vigor. A few minutes' consideration of the subject will show it is but natural that this should be the case.

It has been explained before that muscle-tissue, after it has reached its age of useful-

ness, breaks down and is carried off by the excretory organs, and that new tissue is built up in its place, made of substances taken from the blood during its circulation; and, also, that, if a muscle be used insufficiently, the old tissue does not break down and give place to young tissue with sufficient rapidity, the result being loss of vigor in proportion to the amount of old material retained.

The vegetable kingdom presents a parallel to this physiological fact. An old bough of an apple-tree, as age impairs its function, produces less and less fruit. Should the winds of winter spare it, or the pruning-saw be not applied, it soon ceases to bear altogether, and eventually dies of senile decay — the poison distilled within itself more than likely infecting other parts of the tree and causing its entire destruction. If, when the symptoms of old age first appeared, the bough had been cut off, fresh young branches would have grown in its place, that would have borne as fruitfully as the discarded bough in the time of its vigorous youth. The intelligent orchardist,

however, goes farther than merely removing dying boughs, and cuts off branches before they reach the age of diminished productive power, precisely in the same manner as one who would be vigorous and healthy should break down and eliminate muscle-tissue before it has reached the stage of unusefulness. For just as a tree is strengthened and its growth accelerated by the cutting off of youthful branches, so is muscle strengthened and more rapidly formed by the breaking down and carrying away of tissue that is yet vigorous. That rapid breaking down of tissue leads to an even more rapid up-building is evident from the fact that, up to a reasonable limit, the exercises of a muscle increases both its size and its density.

It is well, therefore, to bear in mind the facts that non-exercise of a muscle permits the retention in it of old tissue that should be disintegrated and carried off; that insufficient exercise removes senile tissue only, and that adequate exercise breaks down and removes, in addition to all the worn-out tissue, some

HEAVY DUMB-BELL EXERCISE NO. 1.

which has not yet reached the stage of unusefulness, and so stimulates the muscle that it absorbs from the blood not only enough nutriment to make up for what it lost, but to add to its size and density.

Unceasing exercise, of sufficiently active character to be of appreciable service—beneficial as it would be to muscular development—is of course out of the question, and, even if it were practicable, would call for such a continuous expenditure of nerve force as to be exhausting and injurious to the system as a whole, and do more harm than good. But no such impossibility or disadvantage attaches to continuous massage, *which performs all the functions of exercise without calling for expenditure of nerve force.* This fact explains in a nut-shell the advantages attached to the use of rings. They provide all the benefits that would attend continuous exercise without any of its accompanying evils. Their usefulness is so apparent, and their application so simple, that it is quite remarkable they have never been advised before.

As generally illustrative of how the ring should be employed, I shall explain its application to the biceps and triceps.

When first used, the ring should be of rubber, of such size and strength that it will grasp the arm in the position indicated in illustration, page 40, with sufficient pressure to slightly impede the circulation of the blood. For those with medium-sized biceps and triceps, and average heart-power, what is known by stationers as rubber-band No. 0000 ¾ will be found about right to begin with. For a day or so after it is first used a little numbness or prickling may be felt in the hands or fingers, and some inconvenience be caused thereby. If the sensation is more than slight, or does not pass away within a couple of days, it is a sign that the ring is too small or too strong, and that it should be replaced by a larger or weaker one. Within two or three weeks the circulation will have overcome the obstruction the compression causes, by cleaning out and enlarging numerous small veins, leading through the biceps and triceps, that hitherto had been but

little used, and thus early in the course these muscles will be provided with a more generally distributed blood supply, enabling them to more easily absorb nutrient matter.

At first the band should not be worn at night, but after a few days its use should be continuous, and will not then be found distressing.

When two weeks or so have passed, and the rings have ceased to cause any inconvenience, they should be exchanged for others that exert a somewhat greater pressure, and when, in time, these entirely cease to be felt, still stronger and smaller ones should take their place, but never should they squeeze so as to cause permanent annoyance. When this stage of tolerance is reached, a section of a pneumatic bicycle tire, an inch long, should be obtained and worn for a few minutes each day, the forearm during the time being worked up and down, the fist tightly shut, and the muscles straining against the pressure to the utmost. To get this last-mentioned ring to its proper position, the aid

of an assistant is required to stretch it and slip it up the arm and gradually release it around the biceps. At first the pressure will be found to be extreme, but after a few days it can easily be borne for two or three minutes at a time, which is all that is required for the best results. Rings should be worn during the dumb-bell exercises hereafter taught, and when dumb-bells are not at hand the same motions should be gone through without them, with the fists tightly clinched.

When these practices have been persevered in for a few months, the pupil is prepared for the more severe form of pressure exerted by a steel ring. This ring should be a circle of ⅜-inch steel, of such size that it closely fits the biceps when the arm is straightened out. When it is placed in position, clinch the fist tightly and slowly bend the arm at the elbow, raising the forearm until the pressure of the swelling biceps against the ring prevents further reduction of the angle; then straighten out the arm again and repeat the performance for two or three minutes. Within

HEAVY DUMB-BELL EXERCISE NO. 1 — TWO-HANDED LIFT.

a few weeks the biceps will have so hardened and strengthened that a chain or rope, capable of withstanding a strain of 200 pounds, closely fitted around them, can be burst by the slow, forceful elevation of the forearm; and before much longer the power to force the steel ring out of shape will be attained. When this is accomplished the performer may rest assured that he has biceps endowed with a strength possessed by few men in the world who have not developed it by this system. I have myself burst a chain in this manner that withstood a strain of over ten thousand pounds, which may seem an extraordinary statement, but is nevertheless true, as many witnesses can testify.

Some persons are so proportioned as never to be able to slip a steel ring of the right circumference to the biceps, because of the greater size of the forearm. Such people must rest content with the use of the pneumatic tire ring already spoken of, which can be placed in position on all persons by an assistant.

If the skin be tender, a little vaseline applied to the inside of the rings will prevent abrasion. After all the severer exercises the muscles that have been encircled should be bathed in cold water.

The muscles of the thigh should be treated in exactly the same way as the biceps, except, of course, that a section of pneumatic bicycle tire is too small to be used. Specially-made rings that exert about the same pressure should be procured for the purpose. To massage thoroughly the several muscles compressed by the thigh rings, the dumb-bell exercises should be gone through whilst wearing them.

A strap tightly buckled around the chest, when it is at a little less than its normal expansion, operates on the muscles that govern the breathing apparatus in precisely the same manner as a ring does on the biceps. This strap should be used for a few minutes every day, the lungs at every breath being expanded to the utmost to overcome its pressure. The resistance it offers to the muscles

that inflate the chest develops them to an extraordinary degree, and before long an ordinary strap, and eventually a quarter-inch wire rope, can be burst asunder by the highly developed power of expansion. No exercises that I know of so beneficially affects the general system. Deep breathing becomes easy and natural, and the risk of acquiring lung affections is reduced to a minimum.

CHAPTER VII.

LIGHT DUMB-BELL EXERCISES.

THE light dumb-bell exereises I advise are simple and only six in number.

They should be performed whilst wearing the rubber rings already spoken of around the upper arm and thigh, of a strength and size that eause as great pressure as can be borne without ineonvenienee.

For a beginner the dumb-bells should not weigh more than two or, at most, three pounds each; but as time goes on, and the museles harden and develop, their weight should be gradually inereased until, at length, those weighing ten or twenty pounds apieee ean be handled as easily as the light ones were at first.

The right weight of the dumb-bells to be used ean be ascertained easily in the following manner: On the first oeeasion that the two or

HEAVY DUMB-BELL EXERCISE NO. 2.

three pound dumb-bells are used, note how many times Exercise No. 1 is performed before the muscles ache to the degree that calls for rest. A month later perform the same exercise with bells a pound or two heavier. If the same number of motions can then be gone through with the heavier bells, by the time the stopping degree of ache is reached, as were performed at first with the lighter ones, the new bells are not too weighty; whilst, on the contrary, if the muscles ache to the stopping degree after fewer motions than were gone through at first, it is an indication that the additional weight is too great.

For instance: If Exercise No. 1 was gone through ten times on the first occasion the lightest dumb-bells were used, and can be performed the same number of times, with equal ease, on the first trial with the heavier bells, the increase of weight is not excessive or premature; but, if ten motions with the heavier bells cause a greater degree of ache than was experienced by ten motions with the lighter dumb-bells on the first trial, it is evident that

the proper time has not yet arrived for inerease of weight, and that a few weeks more of exercise with the lightest ones is called for, after which time the test ean be made again.

For persons in all ordinary walks of life dumb-bells of twenty pounds each are the heaviest that ever should be used. Of eourse, for those who are in training for professional exhibitions mueh heavier ones must be praetieed with, but never should their eombined weight exeeed that of the performer.

I would here, onee again, impress upon my readers the faet that any exereise whieh severely strains, or that is carried to the point of exhaustion, is worse than useless. Do not use dumb-bells that ean not be handled, if not with ease, at least without extreme exertion.

For those who are naturally of a weak eonstitution, or who are temporarily enervated by siekness, if the two-pound dumb-bells are exhausting, let them go through the motions with those that weigh one pound, or even with nothing whatever in the hands, until the museles develop somewhat; and, fur-

ther, if ten minutes' exercise exhausts, cut down the time to five minutes, or two minutes — a period that can be gradually lengthened as the muscles strengthen.

For most persons half an hour's practice each day is all that is required, and this time is best divided into two terms of fifteen minutes each, preferably just before retiring and on rising in the morning.

The exercises should be gone through in light, loose clothing, or in underclothing alone. These latter garments are convenient when the admirable practice of exercising before going to bed is followed. Neither belt nor suspenders should be worn to sustain the trousers, which should be so made as to stay in place by merely being buttoned. If these exercises are performed in a bedroom, or other inclosed space, it is of the first importance that there should be free ventilation and fresh air. It is worse than useless to exercise in a vitiated atmosphere, such as is sure to exist in a badly ventilated bedroom that has been slept in all night.

As mentioned under caption Hygiene, a cold or tepid bath and brisk rubbing should follow these exercises.

HEAVY DUMB-BELL EXERCISE NO. 2.

Exercise No. 1.

Stand upright; shoulders thrown well back; back straight; stomach not protruding; heels touching, the weight of the body resting more on them than on the toes; feet forming a right angle (or one a little less); dumb-bells lying on the ground parallel, and close to, outside of each foot. (See illustration, page 53.)

Stoop down and firmly grasp the dumb-bells *without bending the knees.* (See illustration, page 59.) Straighten up the body to previous position; bend the arms at the elbows and bring the dumb-bells up to the front of and on a level with the shoulders, the backs of the hands outward, palms facing, dumb-bells parallel, inside of upper arms touching sides of the chest (see illustration, page 64), forearms pressing against the biceps as tightly as possible. This attitude is called "first position," and will be referred to as such afterward. (For some persons it is a difficult or impossible thing at first to pick up the dumb-bells without

bending the knees, and for a few days it may be necessary to flex them slightly before the dumb-bells can be grasped. If, however, the practice is persevered in, with a full determination to succeed, the muscles of the legs and back will, before long, become so limbered that the feat can be performed with ease by the corpulent as well as by the slender.)

Straighten out right arm to its fullest extent in line with the shoulders, the dumb-bell not being allowed to fall below the level of the shoulder. (See illustration, page 72.) Proceed in like manner with the left arm, and, as it is being extended, flex the right arm at the elbow and bring the dumb-bell back to a point immediately over the right shoulder. (See illustration, page 78.) Bend the left arm in the same manner whilst again straightening the right, one arm coming in as the other goes out; repeat this rotation until the muscles ache. During this exercise the inside of the forearm should face upward. Look always at the dumb-bell that is being extended; the turning motion

thus given to the head limbers and develops the muscles of the neck. Breathe as deeply as possible. Perform the exercise quite slowly, spending a little more than a second on each motion.

This exercise develops the muscles of the wrist, forearm, upper arm, and shoulders, besides those of the neck.

Exercise No. 2.

Bring dumb-bells to first position (see illustration, page 64); elevate the right dumb-bell straight up to the extreme limit (see illustration, page 85); then lower to the first position, and whilst doing so elevate the left dumb-bell (see illustration, page 91) so that as one arm goes up the other comes down. Look at each dumb-bell as it ascends. Speed should be similar to that directed for the last exercise. The body should be erect, the shoulders thrown well back, feet as before, the breathing deep.

The muscles exercised are all those used in Exercise No. 1, besides those of the back and chest.

LONG BAR DUMB-BELL EXERCISE NO. 1.

Exercise No. 3.

Touch the ends of the dumb-bells, the arms being extended to their utmost, straight above the head. Describe an arc of ninety degrees by swinging the bells forward and downward, stopping them in front of the chest, the ends still touching, the arms stiff at right angles to the body, parallel to the floor, the back of the hands remaining upward (see illustration, page 97). Swing both arms slowly backward, on the same level, until they form one straight line broken in the center by the body, at the same time turning the hands so that the palms will face upward when this position is reached. (See illustration, page 103.)

From this position swing the arms slowly backward and downward, turning the wrists so that the hands will be back to back, when the extreme possibility of the backward motion of the arms is reached (see illustration, page 109); then bring back the dumb-bells to their posi-

tion over the head, as at the beginning of the exercise, the return motions being exactly similar to those just gone through, but in reversed rotation. Position of body and feet same as that for Exercise No. 1; breathing slow and deep.

All the muscles already mentioned are strengthened by this exercise, especially those of the back and shoulders. This is a trying exercise to beginners, and should be practiced in moderation at first.

Exercise No. 4.

Bring dumb-bells to "first position," heels together; feet at an angle of about ninety degrees; weight of body resting on toes. (See illustration, page 115.) Bend knees and slowly bring down buttoek to as near the heels as possible, keeping back straight, knees apart (see illustration, page 121). Rise again slowly until perfectly erect, repeat the alternate rising and lowering very slowly; and finally, while squatting, go through all the exereises already performed.

As well as strengthening the museles aeted on by these motions when performed standing, those of the thigh, calves, and loins are vigorously brought into play and developed by this exereise.

Exercise No. 5.

Lie flat on the back and bring dumb-bells to first position. (See illustration, page 126.) Go through the first two movements of Exercise No. 3.

This exercise particularly strengthens the muscles of the chest, shoulders, and stomach, as well as those of the arms and back.

LONG BAR DUMB-BELL EXERCISE NO. 1.

Exercise No. 6.

While lying on the back bring dumb-bells to the first position and then rise to a sitting posture without raising the feet or legs from the floor, keeping the back straight (see illustration, page 132). Repeat this motion several times.

This, at first, is a difficult feat to perform, and it may be necessary to pass the ankles under straps, fastened at both ends to the floor, against which pressure can be exerted to keep the feet from rising. Possibly some heavy piece of furniture, such as a bureau, elevated a few inches from the floor, may afford facilities that will obviate the necessity of using straps. When in a sitting posture go through exercises 1, 2, 3, and 4, once each in rotation, and repeat.

The muscles of the loins, legs, back, and stomach are all strengthened by rising to and lowering from the sitting posture as directed. The arms, shoulders, etc., also,

are developed by the motions made whilst sitting.

I have known many cases of obstinate dyspepsia entirely cured by raising and lowering the body in this manner, either with or without dumb-bells. It strengthens the muscles of the stomach and bowels to a degree that is surprising to those who have not tested its efficacy. It is a particularly useful exercise for the obese, quickly reducing intestinal fat.

LONG BAR DUMB-BELL EXERCISE NO. 1.

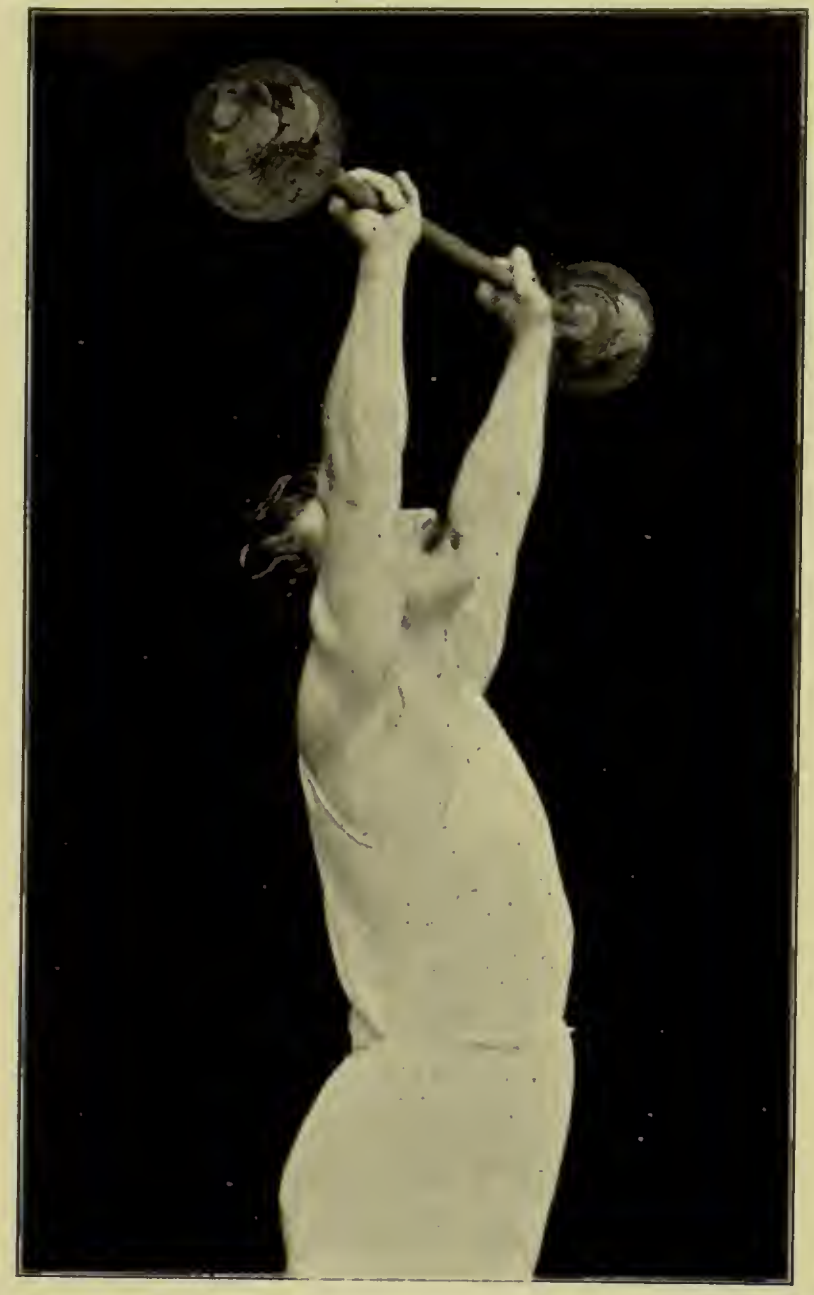
CHAPTER VIII.

HEAVY DUMB-BELL EXERCISES.

THE performance of these exercises is advised only for those who intend to follow the strong-man business, and for amateurs who wish to emulate professional athletes. To those with weak hearts, or who are not in every way lusty and strong, the lifting of heavy weights is highly detrimental, and these exercises must on no account be practiced by such. Business men and others leading sedentary or semi-sedentary lives can keep themselves in vigorous health and strength, and in trained muscular condition, by the use of the ring and the light dumb-bell exercises already advised. In any event, practice with heavy dumb-bells should not be begun until the light bells can be handled for half an hour at a time without fatigue.

The dumb-bell I use when practicing these

exereises weighs 75 pounds; that at my ordinary public performances 150 pounds. The heaviest I have ever been called upon to handle for record-breaking purposes sealed 300 pounds. For the beginner, one of 50 pounds is sufficiently heavy, the weight to be increased gradually, the same method of test being applied as directed for light dumb-bells.



LONG BAR DUMB-BELL EXERCISE NO. 1.

Exercise No. 1.

Stand erect; heels about one foot apart, the feet forming nearly a right angle; the dumb-bell lying between them, bisecting the angle, the bulbs facing front and rear; the center of the shaft, which should be 6 inches long and 1 inch in diameter, opposite the insteps (see illustration, page 139). Bend down by flexing the knees and hips, keeping the back unbent. Rest the left hand on the thigh, halfway to the knee, and grasp the dumb-bell with the right hand as near the rear bulb as possible (see illustration, page 145). Take a long, deep breath, and swing the dumb-bell up onto the right shoulder, assisted by the pressure of the left hand on the thigh; whilst swinging up the bell straighten up the body. When the dumb-bell is resting on the shoulder (see illustration, page 151) move the hand grasping it to the center of the shaft, and drop the left arm loosely by the side. Draw a long, deep

breath; bend the knees slightly (see illustration, page 157), and then straighten them out, with more or less of a jerk, taking advantage of the upward impetus of the body to shoot up the dumb-bell to the extreme length of the right arm, keeping the eyes firmly fixed on the dumb-bell during the motion (see illustration, page 163).

This exercise, though of course requiring considerable strength, is more or less of a knack, the art of fully taking advantage of the upward momentum of the body not being learned without considerable practice. This exercise should also be practiced with the left arm, the right hand resting on the right thigh, whilst the dumb-bell is being swung onto the shoulder.

If at first it be found that the dumb-bell can not be swung onto the shoulder with one arm, reinforce it by placing the other hand under and around the one grasping the dumb-bell (see illustration, page 169) and swing it up with both arms. It will be found that a greater weight can be elevated from the shoulder by

LONG BAR DUMB-BELL EXERCISE NO. 2.

one arm than can be swung onto it by one arm.

There is hardly a muscle in the body that is not called into play and developed by this exercise.

Exercise No. 2.

The dumb-bell for this exercise may be somewhat heavier than for the last. Swing the dumb-bell onto the shoulder with both hands, as directed in the previous exercise, and then move the hand to the center of the shaft. Shift the left foot six inches or so toward the left, turning its toe so that the heel points toward the instep of the right foot (see illustration, page 175). Grasp the left thigh just above the knee with the left hand, and throw the whole weight of the body onto that leg (see illustration, page 181). Take a long, deep breath and slowly elevate the dumb-bell; at the same time gradually bend the left side of the body downward and the left shoulder forward, giving way slightly with the left elbow and knee, and swing the right shoulder and side backward. This movement will bring nearly every muscle of the body into play, and will enable a much greater weight to be elevated than if the body had remained unmoved; for

LONG BAR DUMB-BELL EXERCISE NO. 2.

if the position described be properly taken, the body will be directly under, and act as a support to, the elevated arm as it is being raised (see illustration, page 181), and all the muscular force possessed will be utilized. Keep the eye firmly fixed on the rising dumb-bell, and when the right arm is fully extended, straighten up the body, allowing the left arm to hang loosely by the side.

It takes long practice and hard work to perform this exercise with anything approaching perfection. It is well, therefore, to repeat it frequently with a light dumb-bell in the hand, thereby, without undue strain, acquiring the knack of properly swinging the body. This exercise should also be performed with the left arm.

CHAPTER IX.

LONG BAR HEAVY DUMB-BELL EXERCISES.

THE weight of the long bar dumb-bell for the beginner should be seventy-five pounds, to be gradually increased as expertness and muscular development indicate, until, eventually, one as heavy as the performer himself can be used. The shaft should be five feet in length (including balls) and one and one-half inches in diameter, the exact center of it being marked in some way, so that it can be grasped in the proper place without difficulty.

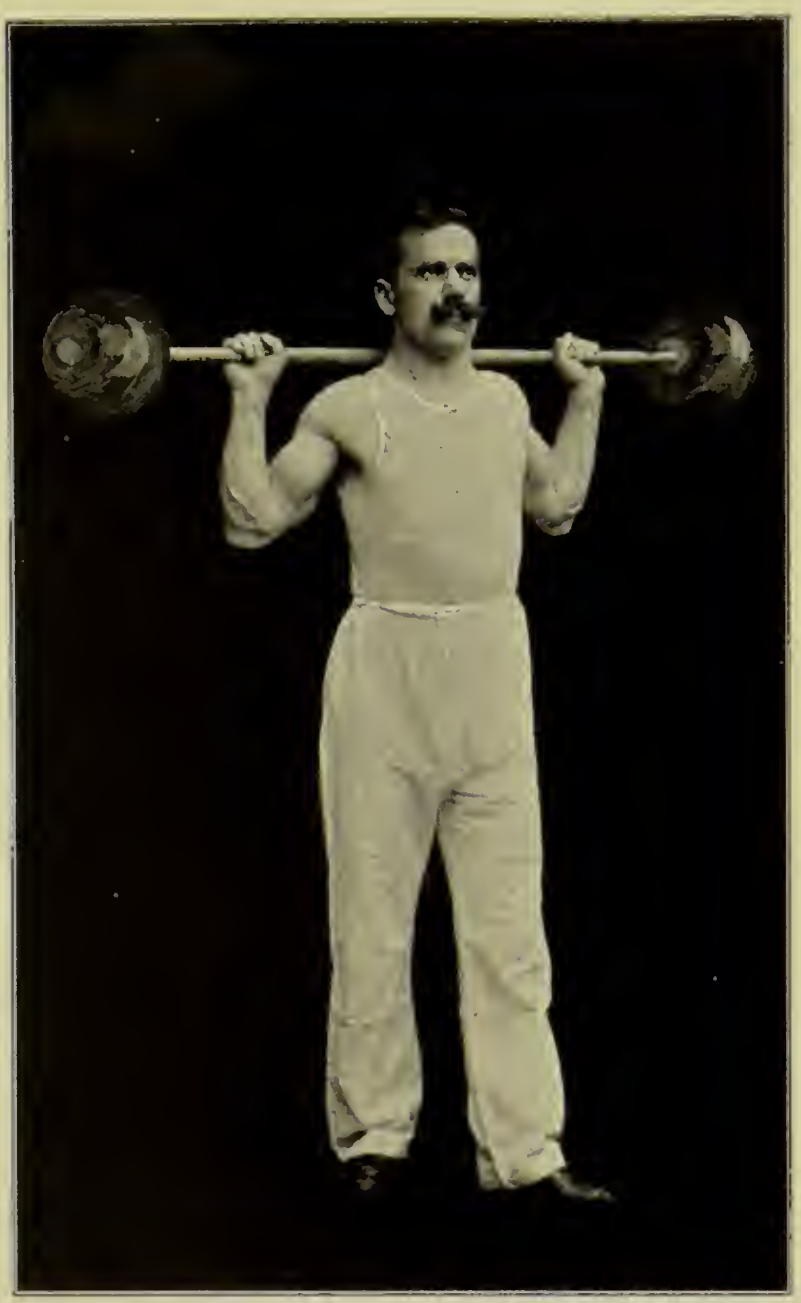
LONG BAR DUMB-BELL EXERCISE NO. 3.

Exercise No. 1.

Stand with the body upright, as directed in Light Dumb-bell Exercise No. 1, the heels separated about one foot, the feet being at such an angle that the toes are two feet apart, the insteps under the shaft of the bar-bell, the center of which should be exactly equidistant from each foot. Take a long, deep breath, flex the hips and knees, keeping the back nearly straight, bend down and grasp the shaft with both hands about nine inches each side of the central mark, the back of the hands facing outward. (See illustration, page 187.) Swing up the bar-bell, bringing it into position shown in illustration, page 193, back of hands facing inward, straightening out knees and hips whilst in the act of swinging it up. Take a long, deep breath, flex knees slightly (see illustration, page 197), and then straighten them out with a jerk, at the same time shooting up the arms and extending them to the utmost above the head,

keeping the eye fixed on the central mark. (See illustration, page 201.) The impetus given is the same as that deseribed in Heavy Dumb-bell Exereise No. 1, and requires a similar degree of praetiee before profieiency is reached.

The muscles of arms, legs, ehest, shoulders, and baek are all used and benefited by this exercise.



LONG BAR DUMB-BELL EXERCISE NO. 3.

Exercise No. 2.

Bring bar-bell to position it was in immediately previous to elevation over the head; advance the left foot a few inches, turning its toes outward, keeping the legs unbent. (See illustration, page 205.) Throw shoulders well back, hollowing the back; take a slow, deep breath, and slowly press the bell upward over the head, without any jerk, to the fullest extent of the arms, keeping the eye on the central mark. (See illustration, page 209.)

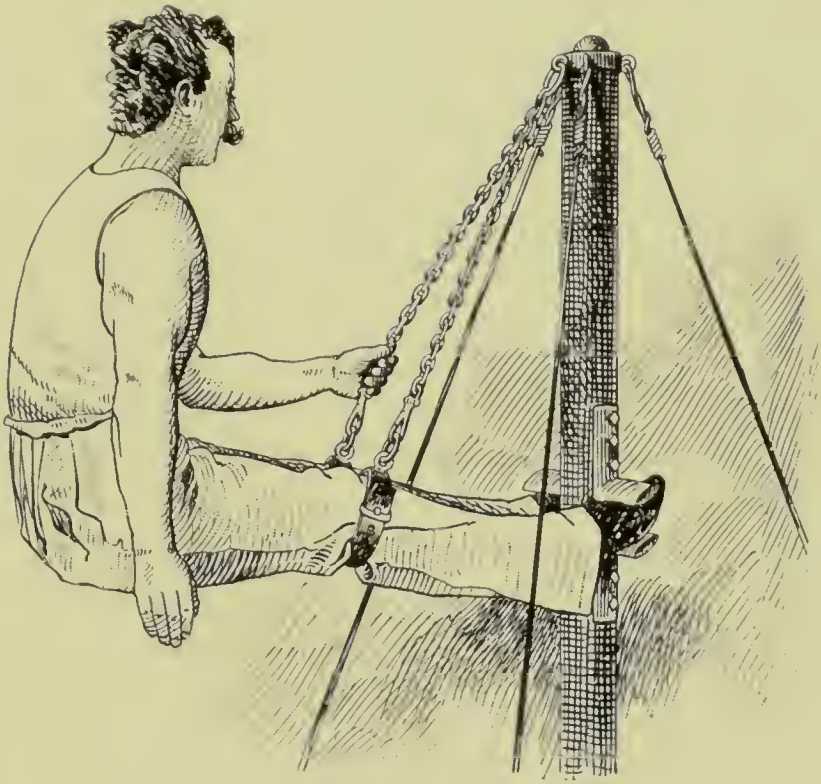
This exercise calls into play the same muscles that are used in the last exercise, but it is more difficult of performance and calls for a much greater degree of strength.

Exercise No. 3.

Elevate the bar-bell over the head as directed in the last exercise, keeping feet and legs in the position there directed, the weight of the body chiefly resting on the heels. Bend the extended arms slightly backward, the head slightly forward; take a slow, deep breath, and then gradually lower the bell behind the head (see illustration, page 215) until it eventually rests on the nape of the neck (see illustration, page 217); then again elevate it and bring it down in front of the chest.

This is an exercise that causes considerable muscular strain and one very difficult of performance. It should be practiced first with a piece of gas-pipe or an iron bar, and never with the bell until Exercise No. 2 is easy of accomplishment.

There is hardly a muscle of the body that is not more or less called into play by the motions of this exercise.



ROMAN COLUMN, FIRST POSITION.

CHAPTER X.

THE ROMAN COLUMN.

To reap full advantage from the following exercises, what is known as a Roman column is required, although much benefit may be derived from a simple substitute, as will be explained later.

The column is more or less a ponderous apparatus, and it is not always convenient to spare the space necessary for its erection. This drawback, together with the fact that its use calls for very severe muscular exertion in adults, leads me to recommend it alone to those who are in training for professional or high-class amateur exhibitions, and for children, who, because of the lightness of their bodies compared with their strength, are enabled to perform the feats without undue exertion, and to whom they are immensely serviceable. In any event, the exercises should not be prac-

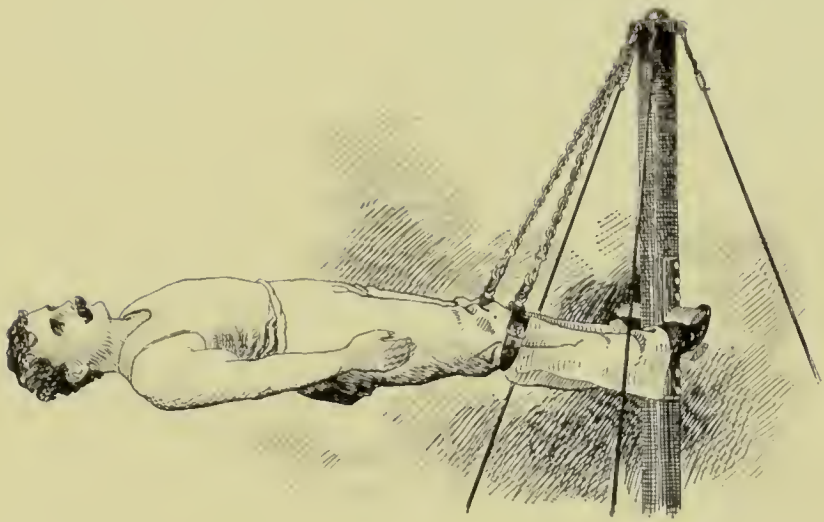
ticed by adults until their muscles are well developed, and brought into vigorous working order, by the preceding course of training.

The Roman column consists of a three-inch iron pipe, nine feet long, standing perpendicularly, firmly fixed in a socket in the floor, and braced by three guys of wire or other strong rope. At a point that can just be reached by the upstretched clenched fist, when kneeling at the base of the column, are two projections opposite each other, standing out at right angles (see letter B, illustration, page 231), and four inches above them two others similarly placed (see letter A, illustration, page 231). These projections are made of angles of flat iron, three-eighths of an inch in thickness, three inches wide, and fourteen inches long. The projection stands out six inches, the plate lying along the column being eight inches in length, with three holes in it two inches apart, through which to screw it to the column. The two upper projections are padded on the under side, fully an inch in thickness, so that the space between the upper and the lower pro-

jections is reduced to three inches. The surface of the projections slope at an angle of about thirty degrees toward that side of the column which will be next the performer. This slope, as will be seen later on, is necessary to prevent straining of the ankles. A few extra screw-holes in the column enable the plates to be slipped up or down if the position of the projections be found to be too high or too low. On the left side of the column, one-third of the way up to these projections, is a step (see letter D, illustration, page 231), and two-thirds of the way up another on the right side (see letter C, illustration, page 231). Round, half-inch iron passed through the column answers for these steps. Two steel chains, with a snap-hook at their lower ends, hang from a collar set around the upper point of the column, and are of such length as to touch the upper projections. The collar, chains, and hooks should all be of the best possible material, for their breakage whilst in use might lead to very serious results. There are also required a couple of straps about two inches wide and softly padded, of such

length as to buckle tightly around the leg immediately below the knee. To each of these a strong steel ring is attached. The leather, buckle, and ring should all be of the very best material, and so made that, when worn, the buckles will be on the outside of the legs and the rings in front.

Having set up the column, and being fully assured that it is firmly set and securely guyed, buckle on the straps immediately below the knee. Grasp the upper left projection with the left hand; place the left foot on the left step and raise yourself to its level. Follow similarly with the right foot on the other step, the right hand grasping the right chain. Next place the left foot as far as the instep between the two left projections, and grasp the left chain with the left hand; with the right hand, hook the snap of the left chain to the ring of the left leg strap. Proceed similarly with the right foot, strap, and chain. Holding a chain in each hand, gradually lower the body back until the sitting position is reached (see illustration, page 221); then release the hands from the chain, and



ROMAN COLUMN, SECOND POSITION.

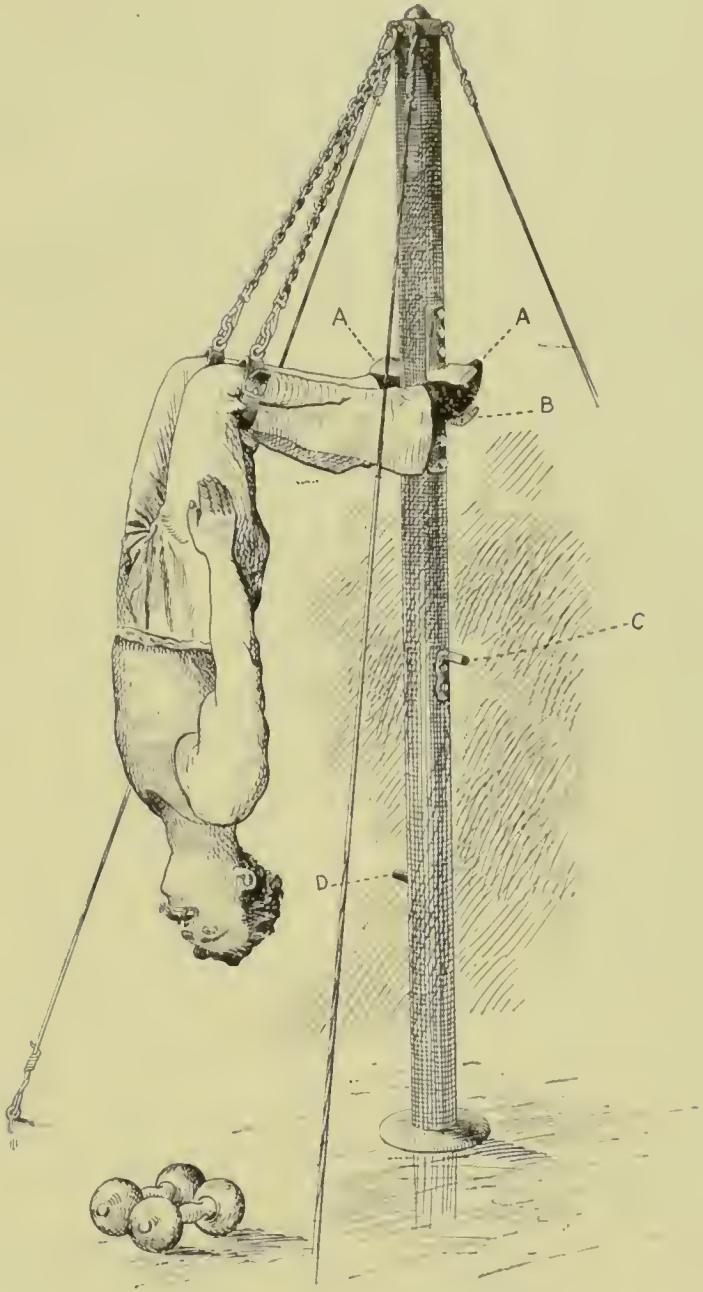
straighten out the body to the attitude shown in illustration, page 227, and continue to lower it until the body hangs straight down from the knees, as shown in illustration, page 231. After a few seconds' pause, by degrees bring the body back to the straight, and then the sitting posture, the arms throughout being kept close to the sides.

At first few people are able to go through this exercise without aid. The hand of an assistant, placed between the shoulders of the pupil, giving slight support during both the lowering and return, will enable the performance of the movements.

The muscles of the back, stomach, and legs will be greatly developed by this exercise, but it must not be forgotten that the liability to strain is considerable, unless the performer is in a thoroughly trained condition, for the muscular exertion called for in a full-grown man is extreme. The exertion for children is proportionately far less, and I know of no exercise that so thoroughly and evenly develops the young.

After a time, when the movements can be performed with ease, the pupil should practice picking up dumb-bells from the floor whilst hanging from the knees, bringing them to the first position as described in Light Dumb-bell Exercise No. 1, and then raising the body as directed above. After a time the heavy long bar dumb-bell can be lifted up and placed across the knees, and then a second descent be made and a pair of heavy dumb-bells be lifted up also.

If space for the erection of a column is not available, fasten the chains to the wall, nine feet from the ground, attaching also projections and steps at the right heights; or, if this is not convenient, a strong chair will fairly well take the place of the column if prepared in the following manner: Attach the chair securely to the ground; across the seat, from side to side, fasten a strong strap sufficiently loose to permit the feet to pass under as far as the instep, the center of the strap being nailed down so as to leave a loop for each foot. Pad the top of the chair back. The back of the chair, from the



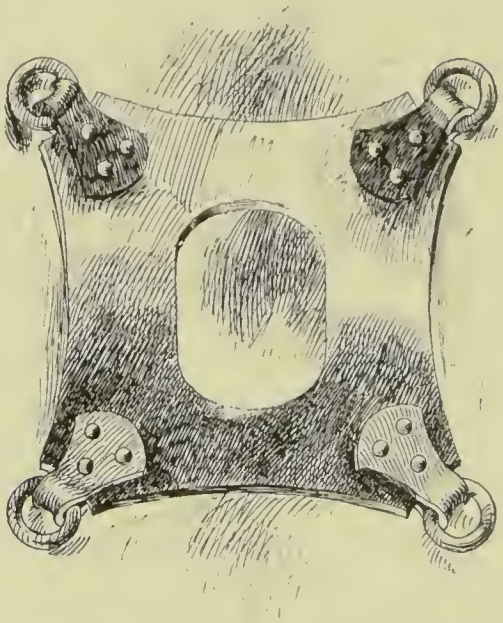
ROMAN COLUMN, THIRD POSITION.

seat to the top, must measure the same as from the ankle to the knee of the pupil. It is used in the following manner: Stand on the chair, the calves against its back; place the feet, as far as the instep, under the strap loops and let the body slowly back, the padded top of the chair-back acting as the leg straps do, when the Roman column is used. The motions can then be gone through as already directed. None of these exercises should at first be performed without some one near at hand, so that should the performer's strength fail, assistance would be at hand to release him from apparatus.

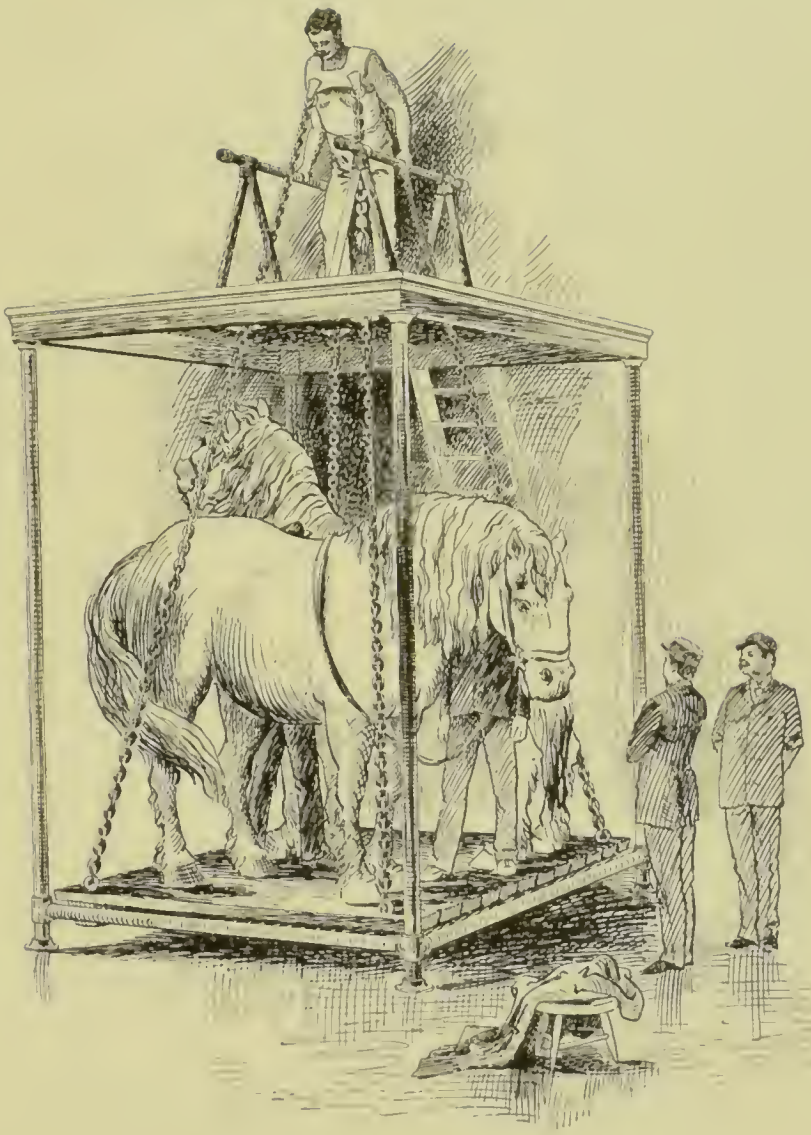
CHAPTER XI.

HEAVY-WEIGHT HARNESS-LIFTING.

THIS exercise is only for those intending to publicly exhibit their strength.



I have not been able to improve upon the collar I used when breaking the record for lifting heavy weights in London, in the year



BREAKING THE HARNESS-LIFTING RECORD.

1891. It is the form, therefore, that I now advise, and consists of a four-sided piece of very strong flexible leather, about two feet across each way, of the shape shown in cut on page 234. A strong steel ring is attached to each corner, the hole in the center being of such size that the head can freely pass through, and the neck not be chafed when it is worn. The whole collar is softly padded on the inside.

The performer stands on a platform immediately above the weight to be lifted. A railing on each side, which the performer grasps with his hands, enables him to use the muscles of his arms. The chains should be of such length, that, when the knees are flexed sufficiently to lower the body six inches, they will be taut when fastened to the weight.

In illustration, page 235, I am shown raising two horses and two men, the chains from the collar being attached to the four corners of a movable platform, on which the horses and men are placed.

Success in lifting heavy weights depends

upon the art of bringing the greatest possible number of muscles into play at the same time. How to do this can only be learned through experience, gained by constant and intelligent practice. It is obvious that if the muscles of the back alone are used, as is the case when some object is lifted by merely straightening the curved spine, that as great a weight can not be raised as if other muscles also were called into service. Likewise, when the muscles of the legs alone are used, and the lift is performed by merely straightening out the bent knees and hips, the full powers are not utilized. The muscles of the back, legs, and arms must *all* be called into action and act in unison. To attain this end, when harness-lifting, very slightly round the spine, and as slightly flex the knees, hips, and elbows; grasp the railings at each side with the hands, the heels being placed about eighteen inches apart, the feet at a comfortable angle. After drawing a long, deep breath, and with a fixed determination to succeed, the mind being intensely concentrated, straighten out legs, arms,

back, and hips gradually and absolutely simultaneously, thus elevating the body and raising the weight. It is a simple matter to thus instruct, and the simultaneous use of many muscles may appear a task easy of performance, but it will be found that long and earnest practice is required before it can be fully accomplished — development of will-power being no less necessary than development of muscle.

As before stated, I broke all harness-lifting records by raising 3,800 pounds in this manner; and later surpassed myself, and won the gold champion belt of the world, by raising 4,008 pounds. A reproduction of the certificate I received for the latter feat is shown on page 10.

It has been stated that a greater weight than this has been lifted by others, but their claims entirely lack confirmation, and my challenge to the world to compete with me in harness-lifting still remains open for acceptance by anyone.

This is an exercise fraught with much danger to all those who are not absolutely sound

in every organ, and in a state of perfect muscular training. At first, the weight practiced with should not exceed 500 pounds, a load that can be increased gradually as time goes on.